APPENDIX J

Finding of Adverse Effect for Historic Properties and Draft Memorandum of Agreement

Introduction

Attached to this appendix are the Bureau of Ocean Energy Management's (BOEM's) *Finding of Adverse Effect for the Revolution Wind Farm and Revolution Wind Export Cable Construction and Operations Plan* (Finding) and *Draft Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Connecticut, Massachusetts, New York, and Rhode Island, and the Advisory Council on Historic Preservation Regarding the Revolution Wind Farm and Revolution Wind Export Cable Project* (MOA).

The Finding documents BOEM's determination of adverse effect on historic properties pursuant to this environmental impacts statement (EIS) analysis and to Sections 106 and 110 of the National Historic Preservation Act (NHPA), as guided by the Section 106 regulations in 36 Code of Federal Regulations 800. BOEM has found that the Revolution Wind Farm and Revolution Wind Export Cable Project (Project) would have an adverse effect on historic properties.

BOEM is completing the MOA in consultation with consulting parties under NHPA Section 106 and with opportunity for public review of draft iterations of the MOA as presented in this appendix of the Draft EIS and the Final EIS. This draft MOA includes stipulations, measures for resolving adverse effects, and treatment plans and other attachments. The MOA will be finalized through this consultation process and posted for public access after completion of the Final EIS and before a record of decision.

Mitigation measures for cultural resources are drafted in the MOA and its historic property treatment plans attached in this appendix. Under the MOA, adverse effects from the Project to National Register of Historic Places (NRHP)–eligible cultural resources, including national historic landmarks (NHLs) and traditional cultural places (TCPs), would be avoided, minimized, or mitigated in accordance with the NHPA Section 106 regulations (36 CFR 800) and in compliance with Section 110(f).

The MOA also has attached post-review discovery plans for onshore and offshore cultural resources, should previously undiscovered or unimpacted historic properties be identified and moderate to major negative effects cannot be avoided. The post-review discovery plans would be implemented to assess and resolve any negative effects to these cultural resources. NRHP-eligible cultural resources that are discovered post-review, if adversely affected, would be mitigated through the NHPA Section 106 process.

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Finding of Adverse Effect for the Revolution Wind Farm and Revolution Wind Export Cable Construction and Operations Plan

Finding of Adverse Effect for the Revolution Wind Farm and Revolution Wind Export Cable Construction and Operations Plan

June 2023

CONFIDENTIAL

U.S. Department of the Interior
Bureau of Ocean Energy Management
Sterling, Virginia

BOEM
Bureau of Ocean Energy Management

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List of Abbreviations

ACHP	Advisory Council on Historic Preservation
ADLS	aircraft detection lighting system
APE	area of potential effects
ASLF	ancient submerged landform
BOEM	Bureau of Ocean Energy Management
B.P.	before present
bsb	below seabed
ca.	circa
CATEX	Categorical Exclusion
CHRVEA	Cumulative Historic Resources Visual Effects Analysis
confidential	contains material that meets the criteria for confidentiality under Section 304 of the NHPA
CT	Connecticut
EA	Environmental Assessment
EIS	environmental impact statement
Finding	Finding of Effect
FONSI	Finding of No Significant Impact
GIS	geographic information system
HDD	horizontal directional drilling
HPTPs	historic property treatment plans
HRVEA	Historic Resources Visual Effects Analysis
IAC	inter-array cable
ICF	interconnection facility
MA	Massachusetts
MARA	Marine Archaeological Resources Assessment
MHC	Massachusetts Historical Commission
MOA	memorandum of agreement
MW	megawatt
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NOI	notice of intent
NPS	National Park Service
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NY	New York
O&M	operations and maintenance
OCS	Outer Continental Shelf
OnSS	onshore substation
OSS	offshore substation

PA	programmatic agreement
PAL	Public Archaeology Laboratory, Inc.
PDE	project design envelope
PPAs	power purchase agreements
RI	Rhode Island
RIHPHC	Rhode Island Historical Preservation & Heritage Commission
RI/MA WEA	Rhode Island/Massachusetts Wind Energy Area
ROD	Record of Decision
RODA	Responsible Offshore Development Alliance
RWEC	Revolution Wind Export Cable
RWF	Revolution Wind Farm
SAP	Site Assessment Plan
SHPO	State Historic Preservation Officer
SWCA	SWCA Environmental Consultants
TARA	Terrestrial Archaeological Resources Assessment
TCP	Traditional Cultural Place
TNEC	The Narragansett Electric Company
Tribal Nation	Federally-recognized Indian Tribe
vhb	Vanasse Hangen Brustlin, Inc.
VIA	Visual Impact Assessment
WTG	wind turbine generator

1 Introduction

The Bureau of Ocean Energy Management (BOEM) is reviewing the construction and operations plan (COP) prepared by Vanasse Hangen Brustlin, Inc. (vhb) (2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) Project (the Project). The RWF is located in the Rhode Island-Massachusetts Wind Energy Area (RI/MA WEA), and the RWEC connects to Rhode Island (RI).

BOEM has made a Finding of Adverse Effect (Finding) for the Project pursuant to Section 106 of the National Historic Preservation Act (NHPA) (54 USC 306108), the implementing regulations for the Section 106 process ("Protection of Historic Properties" 36 CFR Part 800). BOEM has determined the Project would adversely affect National Historic Landmarks (NHLs) and, in compliance with Section 110(f) of the NHPA (54 USC 306107) BOEM, to the maximum extent possible, conducted early planning and actions as may be necessary to minimize harm to the NHLs. This Finding documents potential effects to historic properties in marine, terrestrial, and above ground historical contexts, including the NHLs. As defined in 36 CFR 800.16(l)(1), "Historic property means any prehistoric [or pre-contact] or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places [NRHP] maintained by the Secretary of the Interior." The term historic property includes all NHLs as well as properties of traditional religious and cultural importance to Tribal Nations that are eligible for NRHP listing (36 CFR 800.16(l)(1)). Historic properties include "properties formally determined as such in accordance with regulations [in 36 CFR 63] of the Secretary of the Interior and all other properties that meet the National Register criteria" (36 CFR 800.16(l)(2)).

1.1 Marine Cultural Resources

In the COP, Revolution Wind, LLC (Revolution Wind) has identified 32 marine cultural resources in the Project's area of potential effects (APE) that are of archaeological interest. Based on potential connections to significant historical events and on the important information these resources could provide, BOEM is treating these 32 resources as eligible for listing in the NRHP and, therefore, as historic properties. These marine cultural resources consist of 19 potential submerged archaeological marine resources, designated as shipwrecks/possible historic shipwrecks; although, they may also include other sunken crafts and structures. The 32 resources further consist of 13 geomorphic features, also referred to as ancient submerged landforms (ASLFs), that are of importance to Tribal Nations as well as being of potential archaeological significance. The COP indicates that all 19 shipwrecks/possible historic shipwrecks would be avoided with sufficient buffers by all proposed activities that are part of the Project and, as a result, there would be no effects to these potential historic properties (SEARCH, Inc. [SEARCH] 2023). Nine of the 13 ASLFs on the Outer Continental Shelf (OCS) and in RI state waters (Table 1) are not determined fully avoidable by physical disturbance from Project construction activities and, as a result, BOEM has determined these nine would be adversely affected.

Table 1. Historic Properties, Consisting of Ancient Submerged Landforms (Geomorphic Features), Adversely Affected by the Project

Geomorphic Feature ID	Location	Description
Target-21	RWEC (RI)	[redacted]
Target-22	RWEC (RI)	[redacted]

Geomorphic Feature ID	Location	Description
Target-23	RWEC (OCS)	[redacted]
Target-24	RWF (OCS)	[redacted]
Target-25	RWF (OCS)	[redacted]
Target-26	RWF (OCS)	[redacted]
Target-28	RWF (OCS)	[redacted]
Target-29	RWEC (RI)	[redacted]
Target-30	RWEC (RI)	[redacted]

Source: SEARCH (2023:Table 4-2). Mapped ASLF extents and locations (SEARCH 2023) contain material that meets the criteria for confidentiality under Section 304 of the NHPA and are not publicly distributed.

1.2 Terrestrial Cultural Resources

In the COP, Revolution Wind identified four archaeological sites not fully avoidable in the construction of onshore Project components. BOEM has determined that two of the archaeological sites (Table 2) are historic properties and would be adversely affected by onshore substation (OnSS) development.

Table 2. Historic Properties, Consisting of Terrestrial Cultural Resources, Adversely Affected by the Project

Terrestrial Cultural Resources	Portion of Project	Description
[redacted] #1	[redacted]	[redacted]/Archaeological
[redacted] #2	[redacted]	[redacted]/Archaeological

Source: Forrest and Waller (2023)

1.3 Above Ground Historic Properties

In the COP, the offshore Historic Resources Visual Effects Analysis (HRVEA) (EDR 2023; Revolution Wind 2022a) identified 451 above ground historic properties in the APE. The onshore HRVEA (EDR 2021a) identified 80 above ground historic properties and found two of these to be in the APE. Quonset Point Historic Naval Air station was addressed in both HRVEAs (EDR 2021a, 2023). The above ground historic properties range from individual structures to complex sites, historic districts, and Traditional Cultural Places (TCPs) that are within the viewshed of offshore and onshore Project facilities. BOEM has determined that offshore Project facilities would adversely affect 101 historic properties in RI and Massachusetts (MA) (Table 3) by introducing visual impacts from the Project wind turbine generators (WTGs) and offshore substations (OSSs).

Table 3. Above Ground Historic Properties Adversely Affected by the Project, in Order of Nearest Distance to Project WTGs

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
TCP-3	[redacted] TCP	[redacted]	[redacted]	MA	NRHP-eligible (BOEM determined)	6*
300	Sakonnet Light Station	Little Compton	Newport	RI	NRHP-listed resource	12.7

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
297	Warren Point Historic District	Little Compton	Newport	RI	NRHP-eligible resource (RIHPHC determined)	12.9
299	Abbott Phillips House	Little Compton	Newport	RI	RIHPHC historic resource	13
504	Flaghole	Chilmark	Dukes	MA	MHC historic inventory site	13.3
296	Stone House Inn	Little Compton	Newport	RI	NRHP-listed resource	13.4
503	Simon Mayhew House	Chilmark	Dukes	MA	MHC historic inventory site	13.5
496	71 Moshup Trail	Aquinnah	Dukes	MA	MHC historic inventory site	13.7
484	Vanderhoop, Edwin DeVries Homestead	Aquinnah	Dukes	MA	NRHP-listed resource	13.7
480	Gay Head - Aquinnah Shops Area	Aquinnah	Dukes	MA	MHC historic inventory site	13.7
474	Flanders, Ernest House, Shop, Barn	Aquinnah	Dukes	MA	MHC historic inventory site	13.8
495	3 Windy Hill Drive	Aquinnah	Dukes	MA	MHC historic inventory site	13.9
479	Gay Head Light	Aquinnah	Dukes	MA	NRHP-listed resource	13.9
485	Tom Cooper House	Aquinnah	Dukes	MA	MHC historic inventory site	14
497	Leonard Vanderhoop House	Aquinnah	Dukes	MA	MHC historic inventory site	14
490	Theodore Haskins House	Aquinnah	Dukes	MA	MHC historic inventory site	14.1
486	Gay Head - Aquinnah Coast Guard Station Barracks	Aquinnah	Dukes	MA	MHC historic inventory site	14.1
491	Gay Head - Aquinnah Town Center Historic District	Aquinnah	Dukes	MA	NRHP-listed resource	14.2
303	Gooseneck Causeway	Westport	Bristol	MA	MHC historic inventory site	14.8
304	Gooseberry Neck Observation Towers	Westport	Bristol	MA	MHC historic inventory site	14.8
540	Spring Street	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	14.9
590	Capt. Mark L. Potter House	New Shoreham	Washington	RI	RIHPHC historic resource	14.9
276	Tunipus Goosewing Farm	Little Compton	Newport	RI	NRHP-Eligible Resource (RIHPHC Determined)	15
543	WWII Lookout Tower – Spring Street	New Shoreham	Washington	RI	NRHP-Eligible Resource (RIHPHC Determined)	15.1
251	Westport Harbor	Westport	Bristol	MA	MHC historic inventory site	15.2
290	Bellevue Avenue Historic District NHL	Newport	Newport	RI	NHL	15.2
548	Block Island Southeast Lighthouse NHL	New Shoreham	Washington	RI	NHL	15.2
595	New Shoreham Historic District	New Shoreham	Washington	RI	Local Historic	15.3
536	Spring Cottage	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.3
531	Old Harbor Historic District	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC-determined)	15.3
538	Captain Welcome Dodge Sr.	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.3
541	Caleb W. Dodge Jr. House	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.3
535	Spring House Hotel	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.4

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
545	Pilot Hill Road and Seaweed Lane	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.4
222	Ocean Drive Historic District NHL	Newport	Newport	RI	NHL	15.7
298	Marble House NHL	Newport	Newport	RI	NHL	15.7
597	Ochre Point – Cliffs Historic District	Newport	Newport	RI	NRHP-listed resource	15.8
546	WWII Lookout Tower at Sands Pond	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.8
552	Sea View Villa	Middletown	Newport	RI	RIHPHC historic resource	15.9
295	Rosecliff/Oelrichs (Hermann) House/ Mondroe (J. Edgar) House	Newport	Newport	RI	NRHP-listed resource	15.9
293	The Breakers NHL	Newport	Newport	RI	NHL	15.9
516	Corn Neck Road	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.9
302	Clam Shack Restaurant	Westport	Bristol	MA	MHC historic inventory site	15.9
301	Horseneck Point Lifesaving Station	Westport	Bristol	MA	MHC historic inventory site	15.9
553	Whetstone	Middletown	Newport	RI	RIHPHC historic resource	16
284	The Bluff/John Bancroft Estate	Middletown	Newport	RI	RIHPHC historic resource	16
288	Clambake Club of Newport	Middletown	Newport	RI	NRHP-listed resource	16
530	Old Town and Center Roads	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16
526	Beach Avenue	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.1
519	Mitchell Farm	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.1
523	Indian Head Neck Road	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.2
168	Westport Pt. Revolutionary War Properties	Westport	Bristol	MA	MHC historic inventory site	16.2
261	Indian Avenue Historic District	Middletown	Newport	RI	NRHP-listed resource	16.2
278	St. Georges School	Middletown	Newport	RI	NRHP-listed resource	16.3
528	Hygeia House	New Shoreham	Washington	RI	NRHP-listed resource	16.3
527	U.S. Weather Bureau Station	New Shoreham	Washington	RI	NRHP-listed resource	16.3
549	Miss Abby E. Vaill/1 of 2 Vaill cottages	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.4
550	Hon. Julius Deming Perkins / ”Bayberry Lodge”	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.4
542	Lakeside Drive and Mitchell Lane	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.5
280	Land Trust Cottages	Middletown	Newport	RI	NRHP-eligible resource (RIHPHC determined)	16.6
482	Russell Hancock House	Chilmark	Dukes	MA	MHC historic inventory site	16.6
163	Westport Point Historic District (1 of 2)	Westport	Bristol	MA	NRHP-eligible resource (MHC determined)	16.7

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
164	Westport Point Historic District (2 of 2)	Westport	Bristol	MA	NRHP-listed resource	16.7
551	Mohegan Cottage/Everett D. Barlow House	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.7
266	Paradise Rocks Historic District	Middletown	Newport	RI	RIHPHC historic resource	16.8
547	Lewis- Dickens Farm	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.8
525	Island Cemetery/Old Burial Ground	New Shoreham	Washington	RI	RI Historical Cemetery	16.8
279	Kay St.-Catherine St.-Old Beach Rd. Historic District/The Hill	Newport	Newport	RI	NRHP-listed resource	16.9
532	Beacon Hill Road	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.9
533	Nathan Mott Park	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.9
515	Block Island North Lighthouse	New Shoreham	Washington	RI	NRHP-listed resource	17.1
522	Champlin Farm	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.1
517	Hippocampus/Boy's Camp/ Beane Family	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.2
520	U.S. Lifesaving Station	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.4
518	U.S. Coast Guard Brick House	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.4
521	Peleg Champlin House	New Shoreham	Washington	RI	NRHP-listed resource	17.5
469	Hancock, Captain Samuel - Mitchell, Captain West House	Chilmark	Dukes	MA	NRHP-eligible resource (MHC determined)	17.6
508	Scrubby Neck Schoolhouse	West Tisbury	Dukes	MA	MHC historic inventory site	18
345	Point Judith Lighthouse	Narragansett	Washington	RI	NRHP-listed resource	18.2
245	Bailey Farm	Middletown	Newport	RI	NRHP-listed resource	18.3
226	Beavertail Light	Jamestown	Newport	RI	NRHP-listed resource	18.4
582	Horsehead/Marbella	Jamestown	Newport	RI	NRHP-listed resource	18.6
333	Ocean Road Historic District	Narragansett	Washington	RI	NRHP-listed resource	18.9
335	Dunmere	Narragansett	Washington	RI	NRHP-listed resource	19.2
86	Puncatest Neck Historic District	Tiverton	Newport	RI	RIHPHC historic resource	19.4
576	Fort Varnum/Camp Varnum	Narragansett	Washington	RI	NRHP-eligible resource (RIHPHC determined)	19.6
156	Salters Point	Dartmouth	Bristol	MA	MHC historic inventory site	19.7
578	Dunes Club	Narragansett	Washington	RI	NRHP-listed resource	19.8
329	Life Saving Station at Narragansett Pier	Narragansett	Washington	RI	NRHP-listed resource	19.8
330	The Towers Historic District	Narragansett	Washington	RI	NRHP-listed resource	19.8
591	Narragansett Pier MRA	Narragansett	Washington	RI	NRHP-listed resource	19.8
328	The Towers/Tower Entrance of Narragansett Casino	Narragansett	Washington	RI	NRHP-listed resource	19.9

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
TCP-1	[redacted]	[redacted]	[redacted]	MA	NRHP-eligible resource (BOEM determined)	20
343	Brownings Beach Historic District	South Kingstown	Washington	RI	NRHP-listed resource	21.8
444	Tarpaulin Cove Light	Gosnold	Dukes	MA	NRHP-listed resource	22.1
391	Clark's Point Light	New Bedford	Bristol	MA	NRHP-listed resource	24.6
390	Fort Rodman Historic District	New Bedford	Bristol	MA	NRHP-eligible resource (MHC determined)	24.6
392	Fort Taber Historic District	New Bedford	Bristol	MA	NRHP-listed resource	24.6
386	Butler Flats Light Station	New Bedford	Bristol	MA	NRHP-listed resource	25.6
389	744 Sconticut Neck Road	Fairhaven	Bristol	MA	MHC historic inventory site	25.9
449	Nobska Point Lighthouse	Falmouth	Barnstable	MA	NRHP-listed resource	28

Source: EDR (2023:Attachment A)

Notes: MHC = Massachusetts Historical Commission, RIHCPC = Rhode Island Historical Preservation & Heritage Commission.

* This TCP extends for several miles offshore, including within 6 miles of the nearest potential Project WTG offshore [redacted]

2 Project Overview

On March 13, 2020, BOEM received the initial COP to develop a wind energy project within BOEM Renewable Energy Lease Area OCS-A 0486 (Lease Area) from Revolution Wind. In the revised version of the COP (submitted in December 2021), Revolution Wind proposes the construction, operations, and eventual decommissioning of the Project, with up to 100 WTGs, up to two OSSs, inter-array cables (IACs) buried under the seafloor linking the individual WTGs to the OSS, one OSS-link cable under the seafloor linking the OSSs to each other, up to two offshore sub-seafloor export cables, a 3.1-acre landfall work area for the export cables to come ashore at Quonset Point, a buried onshore transmission cable system, up to one OnSS and adjacent interconnection facility (ICF) with a buried connection line, and an overhead connection from the ICF to The Narragansett Electric Company's (TNEC) existing Davisville Substation (and the electrical grid in RI) (Figures A-1 and A-2 in Appendix A [vhb 2023:Figures ES-1 and ES-2]). Revolution Wind is utilizing a project design envelope (PDE) in its COP, which represents a range of design parameters that could be used for the Project. In reviewing the PDE, BOEM is analyzing the maximum impacting scenario (or maximum-case scenario) that could occur from any combination of the Project parameters. BOEM's analysis and review of the PDE could result in the approval of a project that is constructed within that range or a subset of design parameters within the proposed range.

For the RWF, as proposed in Revolution Wind's COP, each of the up to 100 WTGs would have a nameplate capacity of 8 to 12 megawatts (MW)[1]. The WTGs, OSSs, IACs, and OSS-link cable would be located in the Lease Area approximately 13 nautical miles (nm) (approximately 15 miles) east of Block Island, RI, and approximately 15 nm (approximately 17.25 miles) southeast of the coast of mainland RI. The RWEC would be buried in the seabed within federal OCS and RI state waters. The onshore transmission cabling, OnSS, ICF, and one grid connection would be located in Washington County, RI.

2.1 Background

The RWF is located within the RI/MA WEA where BOEM has conducted previous Section 106 reviews for issuance of the commercial lease and approval of site assessment activities. The Section 106 process was completed through a programmatic agreement (PA)[2] executed June 8, 2012 (BOEM 2012a), prepared concurrently with the BOEM's environmental assessment (EA) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore RI and MA (BOEM 2012b, 2013). A commercial lease sale for the RI/MA was held in 2013 and Revolution Wind was the winner of Lease OCS-A 0486 (under its current number designation). Subsequent to award of the lease, Revolution Wind submitted a site assessment plan (SAP) describing the proposed construction and installation, operations and maintenance (O&M), and decommissioning of a stand-alone offshore meteorological data collection

[1] BOEM's EIS also analyzes an alternative that, if selected, would implement a higher nameplate capacity WTG (up to 14 MW assumed for the analysis) than what is in the COP project design envelope. This higher capacity WTG, however, must still fall within the physical design parameters of the PDE and thus within the maximum case design parameters used for evaluating impacts in the EIS and this Finding. It is important to note, however, that under this alternative less than 100 WTGs would be approved and installed, potentially reducing some of the impacts described in this Finding depending on which WTG positions were to be removed.

[2] *Programmatic Agreement among the U.S. Department of the Interior, Bureau of Ocean Energy Management; the State Historic Preservation Officers of Massachusetts and Rhode Island; the Mashpee Wampanoag Tribe; the Narragansett Indian Tribe; the Wampanoag Tribe of Gay Head (Aquinnah); and the Advisory Council on Historic Preservation Regarding the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities Offshore Massachusetts and Rhode Island*

system (Tetra Tech 2016), which BOEM reviewed and approved (BOEM 2017). Section 106 reviews for both the lease issuance and the approval of the SAP were conducted pursuant to the PA (BOEM 2012a). These reviews concluded with a BOEM determination of no historic properties affected for lease issuance, corresponding to the finding of no significant impact (FONSI), consequent to EA finalization on June 4, 2013. NEPA review of the SAP for categorical exclusion (CATEX) documented BOEM's finding of no historic properties affected under Stipulation 1 of the PA, on September 21, 2016 (and for consequent SAP approval on October 12, 2017).

2.2 Undertaking

BOEM has determined that the construction, operation, maintenance, and eventual decommissioning of the Project is the undertaking subject to Section 106 and that the activities proposed in the COP have the potential to affect historic properties. Detailed information about the Project, including the COP and its appendices, can be found on BOEM's website (see https://www.boem.gov/renewable-energy/state-activities/revolution-wind-farm-construction-and-operations-plan-april-2021). BOEM sent those appendices to the COP that identify cultural resources and assess historic properties to all consulting parties on February 28, 2022.. On August 1, 2022, and simultaneous to the March 2023 release of this Finding, BOEM sent revised versions of these appendices. These documents contain material that meets the criteria for confidentiality under Section 304 of the NHPA. The contents of the COP, as well as its public and confidential appendices on cultural resources, should be referred to by readers, where cited, and are not repeated in detail by the Finding.

BOEM has elected to use NEPA substitution for the Section 106 review pursuant to 36 CFR 800.8(c) (see also Advisory Council on Historic Preservation [ACHP} 2020; Council on Environmental Quality and ACHP 2013). BOEM's Section 106 review for this undertaking includes the identification and evaluation of historic properties and the assessment of effects for all the action alternatives identified during the NEPA review, in the draft environmental impact statement (EIS) for the Project (BOEM 2022a). The EIS analyzes the impacts of the Project to the human environment and specifically to cultural resources, including historic properties. The final EIS and Section 106 review analyze a total of 17 alternatives (A through G and variants under four of these [C1–C2, D1–D3, E1–E2, and G1–G3]), as presented in Table 4. BOEM has identified a preferred alternative for the final EIS that would be a combination of the alternatives analyzed in the EIS; however, this alternative would result in no changes to BOEM's finding adverse effect for the Project. BOEM's final decision will be described in the record of decision (ROD).

Table 4. Description of the Alternatives Reviewed in the Environmental Impact Statement

Alternative	Description
A: No Action Alternative	Under the No Action Alternative, BOEM would not approve the COP. Project construction and installation, O&M, and decommissioning would not occur, and no additional permits or authorizations for the Project would be required. Any potential environmental and socioeconomic impacts, including benefits, associated with the Project as described under the Proposed Action or the Preferred Alternative, would not occur. However, all other past and ongoing impact-producing activities would continue… The current resource condition, trends, and impacts from ongoing

	activities under the No Action Alternative serve as the baseline against which the direct and indirect impacts of all action alternatives are evaluated. Over the life of the Project, other reasonably foreseeable future impact-producing offshore wind and non–offshore wind activities would be implemented, which would cause changes to the affected environment even in the absence of the Proposed Action or the Preferred Alternative. The continuation of all other existing and reasonably foreseeable future activities described in Appendix E [of the EIS] without the Proposed Action serves as the baseline against which the cumulative impacts of all alternatives are evaluated.
B: Proposed Action Alternative (Proposed Action)	The construction and installation, O&M, and eventual decommissioning of a wind energy facility within the PDE and applicable mitigation measures, as described in the COP. The Proposed Action includes up to 100 WTGs ranging in nameplate capacity of 8 to 12 MW sufficient to fulfill at a minimum the existing power purchase agreements (PPAs, totaling 704 MW) and up to 880 MW, the maximum capacity identified in the PDE. The WTGs will be connected by a network of IACs; up to two OSSs[3] connected by one OSS-link cable; up to two submarine export cables co-located within a single corridor; up to two underground transmission circuits located onshore; one onshore ICF; and one OnSS inclusive of up to two interconnection circuits connecting to the existing Davisville Substation in North Kingstown, RI. The Proposed Action includes the burial of offshore export cables below the seabed in both the OCS and RI state waters and a uniform east-west and north-south grid of 1 × 1–nm spacing between WTGs[4].
C: Habitat Impact Minimization Alternative	The construction and installation, O&M, and eventual decommissioning of a wind energy facility within the PDE and applicable mitigation measures, as described in the COP. To reduce impacts to complex fisheries habitats most vulnerable to permanent and long-term impacts from the Proposed Action, however, certain WTG positions would be eliminated while maintaining a uniform east-west and north-south grid of 1 × 1–nm spacing between WTGs. The placement of WTGs would be supported by location-specific benthic and habitat characterizations conducted in close coordination with National Marine Fisheries Service (NMFS). Under this alternative, fewer WTG locations (and potentially fewer miles of IACs) than Alternative B would be approved by BOEM. Under this alternative, there are 5 “spare” WTGs: • Alternative C1: This alternative allows for the fulfillment of the existing three PPAs, which total 704 MW, while omitting WTGs in locations to maintain a uniform east–west/north–south grid of 1 × 1–nm spacing between WTGs. Under this alternative, up to 35 WTGs and associated IACs would be removed from consideration, resulting in up to 65 WTGs and associated IACs being approved. • Alternative C2: This alternative allows for the fulfillment of the existing three PPAs, which total 704 MW, while omitting WTGs in locations to maintain a uniform east west and north-south grid of 1 × 1–nm spacing between WTGs. Under this alternative, up to 36 WTGs and associated IACs would be removed from consideration, resulting in up to 64 WTGs and associated IACs being approved. Refer to EIS Appendix K for background information on the development of the Alternative C1 and C2 layouts.

[3] Each OSS has a maximum nominal capacity of 440 MW; two OSSs are required to achieve the PPA obligations of 704 MW.

[4] In accordance with 30 CFR Part 585.634(C)(6), micrositing of WTG foundations may occur within a 500-ft radius around each proposed WTG location. Micrositing of WTGs will be performed on a case-by-case basis to avoid significant seabed hazards such as surface and subsurface boulders, as stated in the COP.

D: No Surface Occupancy in One or More Outermost Portions of the Project Area Alternative	The construction and installation, O&M, and eventual decommissioning of a wind energy facility within the PDE and applicable mitigation measures, as described in the COP. However, to reduce conflicts with other competing space-use vessels, WTGs adjacent to or overlapping transit lanes proposed by stakeholders or the Buzzard's Bay Traffic Separation Scheme Inbound Lane, would be eliminated while maintaining the uniform east-west and north-south 1 × 1–nm grid spacing between WTGs. Under this alternative, BOEM could select one, all, or a combination of the following three alternatives, while still allowing for the fulfillment of existing PPAs and up to the maximum capacity identified in the PDE (i.e., 880 MW). Under this alternative, fewer WTG locations (and potentially fewer miles of IACs) than Alternative B would be approved by BOEM. Under this alternative, there are up to 6 "spare" WTGs: • Alternative D1: Removal of the southernmost row of WTGs that overlap the 4-nm east-west transit lane proposed by the Responsible Offshore Development Alliance (RODA), as well as portions of Cox Ledge. Under this alternative, up to 7 WTGs and associated IACs would be removed from consideration, resulting in up to 93 WTGs and associated IACs being approved. • Alternative D2: Removal of the eight easternmost WTGs that overlap the 4-nm north-south transit lane proposed by RODA. Under this alternative, up to 8 WTGs and associated IACs would be removed from consideration, resulting in up to 92 WTGs and associated IACs being approved. • Alternative D3: Removal of the northwest row of WTGs adjacent to the Inbound Buzzards Bay Traffic Lane. Under this alternative, up to 7 WTGs and associated IACs would be removed from consideration, resulting in up to 93 WTGs and associated IACs being approved. The selection of all three alternatives (i.e., D1, D2, and D3) would eliminate up to 22 WTG locations and associated IACs, resulting in up to 78 WTGs and associated IACs being approved while maintaining the 1 × 1–nm grid spacing proposed in the COP and as described in Alternative B. Based on the design parameters outlined in the COP, allowing for the placement of 78 to 93 WTGs and two OSSs would still allow for the fulfillment of up to the maximum capacity identified in the PDE (e.g., 880 MW = 74 WTGs needed if 12 MW WTGs are used).
E: Reduction of Surface Occupancy to Reduce Impacts to Culturally-Significant Resources Alternative	The construction and installation, O&M, and eventual decommissioning of a wind energy facility within the PDE and applicable mitigation measures, as described in the COP. However, to reduce the visual impacts on culturally important resources on Martha's Vineyard and in RI, some WTG positions would be eliminated while maintaining the uniform east-west and north-south 1 × 1–nm grid spacing between WTGs. Under this alternative, fewer WTG locations (and potentially fewer miles of IACs) than Alternative B would be approved by BOEM. Under this alternative, there are up to 5 "spare" WTGs: • Alternative E1: Allows for the fulfillment of the existing three PPAs totaling 704 MW, while eliminating WTG locations to reduce visual impacts on these culturally-important resources. Under this alternative, up to 36 WTGs and associated IACs would be removed from consideration, resulting in up to 64 WTGs and associated IACs being approved. • Alternative E2: Allows for a power output delivery identified in the PDE of up to 880 MW while eliminating WTG locations to reduce visual impacts on these culturally-important resources. Under this alternative, up to 19 WTGs and associated IACs would be removed from consideration, resulting in up to 81 WTGs and associated IACs being approved. Refer to EIS Appendix K for background information on the development of the Alternative E1 and E2 layouts.

F: Selection of a Higher Capacity Wind Turbine Generator	The construction and installation, O&M, and eventual decommissioning of a wind energy facility implementing a higher nameplate capacity WTG (up to 14 MW) than what is proposed in the COP. This higher capacity WTG must fall within the physical design parameters of the PDE and be commercially available to the Project proponent within the time frame for the construction and installation schedule proposed in the COP. The number of WTG locations under this alternative would be sufficient to fulfill the minimum existing PPAs (total of 704 MW and 56 WTGs, including up to five "spare" WTG locations). Using a higher capacity WTG would potentially reduce the number of foundations constructed to meet the purpose and need and thereby potentially reduce impacts to marine habitats and culturally significant resources and potentially reduce navigation risks.
G: Preferred Alternative	The construction and installation, O&M, and eventual decommissioning of a wind energy facility within the range of the design parameters outlined in the COP, subject to applicable mitigation measures. The Preferred Alternative is designed to reduce impacts to visual resources and benthic habitat and includes up to 79 possible positions for the installation of 65 WTGs with a nameplate capacity of 8-12 MW necessary to fulfill the existing PPAs (total of 704 MW) while maintaining the uniform east–west and north–south 1 × 1–nm grid spacing between WTGs. There are up to 14 "spare" WTG positions available for use if unforeseen siting conditions occur necessitating relocation of any of the 65 WTGs from the planned position(s). Two of the 65 WTGs have the flexibility to be located in 3 different spots within the 79 WTG possible positions. As a result, this alternative includes the analysis of three layouts for installation of the 65 WTGs. This flexibility in design could allow for further refinement for visual resources impact reduction on Martha's Vineyard and Rhode Island, or for habitat impact reduction in the NMFS Priority 1 area. • Alternative layout G1: Allows for the fulfillment of the existing three PPAs totaling 704 MW, while relocating 2 WTG locations from NMFS Priority 1 area to reduce fishery and essential fish habitat impacts. Under this alternative, 35 WTGs and associated IACs would be removed from consideration, resulting in 65 WTGs and associated IACs being installed in the positions identified in layout G1. • Alternative layout G2: Allows for the fulfillment of the existing three PPAs totaling 704 MW, while relocating 2 WTG locations to reduce visual impacts on the horizon from the Aquinnah Overlook, a culturally-important resource. Under this alternative, 35 WTGs and associated IACs would be removed from consideration, resulting in 65 WTGs and associated IACs being installed in the positions identified in layout G2. • Alternative layout G3: Allows for the fulfillment of the existing three PPAs totaling 704 MW, while relocating 2 WTG locations closest to the shore of Martha's Vineyard to reduce visual impacts on culturally-important resources. Under this alternative, 35 WTGs and associated IACs would be removed from consideration, resulting in 65 WTGs and associated IACs being installed in the positions identified in layout G3. All other components of Alternative G are the same as Alternative B and include: up to two offshore substations (OSSs) connected by an offshore substation-link cable; up to two submarine export cables co-located within a single corridor; up to two underground transmission circuits located onshore within a single corridor; and an onshore substation inclusive of up to two interconnection circuits within a single corridor connecting to the existing Davisville Substation in North Kingstown, Rhode Island. Refer to Appendix K for background information on the development of the Alternative G and Alternative G1, G2 and G3 layouts.

Source: BOEM final EIS Table 2.1-1

2.3 Area of Potential Effects

The geographic analysis area, as described for potential impacts to cultural resources (marine, terrestrial, and above ground) in the EIS under NEPA is equivalent to the Project's APE, as defined in the Section 106 regulations. In 36 CFR 800.16(d), the APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties, if any such properties exist." BOEM (2020) defines the Project APE as follows:

- the depth and breadth of the seafloor potentially affected by any bottom-disturbing activities, constituting the marine cultural resources portion of the APE;
- the depth and breadth of terrestrial areas potentially affected by any ground-disturbing activities, constituting the terrestrial cultural resources portion of the APE;
- the viewshed from which renewable energy structures, whether located offshore or onshore, would be visible, constituting the APE for visual impacts analysis; and
- any temporary or permanent construction or staging areas, both onshore and offshore.

This Finding assesses effects only to historic properties within the APE for the Project. These effects include reasonably foreseeable effects caused by the Project that could occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5(a)(1)).

2.3.1 Marine Area of Potential Effects

BOEM (2020) defines the APE for marine cultural resources (hereafter marine APE) as the depth and breadth of the seafloor potentially impacted by bottom-disturbing activities of the Project (Figure A-1 in Appendix A) (SEARCH 2023).

2.3.1.1 Revolution Wind Farm Maximum Work Area

The marine APE encompasses all offshore areas where seafloor-disturbing activities from WTG and OSS foundation construction IAC trenching and installation, boulder relocation, and vessel anchoring could occur. The RWF COP PDE proposes up to 100 WTGs and two OSSs within the extent of the APE. Each potential WTG and OSS foundation location includes up to approximately 3-acres of seafloor disturbance under the maximum-case scenario, for a combined total of approximately 734 acres of horizontal construction disturbance for up to 102 offshore Project foundations, reaching up to a maximum vertical extent of 164 feet below seabed (bsb) for monopile foundations (BOEM 2022a). Under the maximum-case scenario up to 164 miles of IAC and OSS-link cable would be installed, resulting in up to 2,619 acres of seafloor disturbance and reaching cable emplacement depths of up to 10 feet below seafloor (BOEM 2022a). The target IAC and OSS-link cable burial depth requirement for the Project is 4 to 6 feet bsb.

2.3.1.2 Revolution Wind Farm Export Cable Offshore Corridor

The RWEC would span approximately 42 miles through federal waters and RI state waters with landfall near Quonset Point, RI (BOEM 2022a). Combined, the two parallel cables' length would be approximately 84 miles. The RWEC would span 19 miles of the OCS and 23 miles through RI state waters before reaching landfall (BOEM 2022a). The entire RWEC would be located within a 1,640-foot-wide Project easement (8,349 acres) with the maximum depth of RWEC burial impact extending 13 feet

(4 m) below the seafloor (BOEM 2022a). The target RWEC burial depth requirement for the Project is 4 to 6 feet bsb. The maximum-case scenario for horizontal seafloor disturbance of the RWEC would be 1,390 acres of the 8,349 acre-corridor (BOEM 2022a). At the landfall work area, the marine APE also includes workspaces where potential seafloor-disturbing activities associated with horizontal directional drilling (HDD), potentially involving use of an offshore cofferdam, and vessel anchoring could occur. Details of the onshore transition for the RWEC is described with the landfall envelope in Section 2.3.2.1.

2.3.1.3 Offshore Vessel Anchoring

Vessel anchoring for RWF and RWEC construction, operations, maintenance, and decommissioning would disturb up to 3,178 acres of seafloor under the maximum-case scenario (BOEM 2022a). Anchors for cable-laying vessels have a maximum penetration depth of 15 feet within the RWF and 18 feet for the RWEC (SEARCH 2023).Anchoring would be limited to the RWF maximum work area and the RWEC corridor (see Figure B-1).

2.3.2 Terrestrial Area of Potential Effects

BOEM (2020) defines the APE for terrestrial cultural resources (hereafter terrestrial APE) as the depth and breadth of terrestrial areas potentially impacted by any ground-disturbing activities of the Project. This includes the areas of the landfall envelope, onshore transmission cable easement, OnSS, and ICF depicted in Figure A-2.

2.3.2.1 Landfall Envelope

Revolution Wind is considering a range of siting options for the RWEC landfall, all of which are encompassed by a 20-acre landfall work area. Within this area, 3.1 acres would be sited, within which ground disturbance associated with the onshore transmission cable construction would occur. The deepest disturbances within the landfall work area would be associated with the HDD construction method for cable emplacement, which could entail the installation of temporary sheet pile anchor walls driven to a depth of approximately 20 feet. The HDD drill itself could reach a depth of up to 66 feet below the seafloor and between the onshore transition joint bays and the offshore exit pits. HDD sediment displacement would be largely confined to the two 3-foot-diameter bore holes.

2.3.2.2 Onshore Transmission Cabling

The width of potential ground disturbance for the onshore transmission cable is assumed to be at the extent of the Project easement, which is 25 feet wide centered along the cable route. The preferred onshore transmission cable route from the landfall location to the OnSS is an approximately 1-mile route that would predominantly follow along paved roads or previously disturbed areas such as parking lots. There are alternative onshore transmission cable routes under consideration within the onshore transmission cable PDE, as depicted on Figure A-2. The maximum-scenario for onshore cable disturbance is 16.7 acres. Although some of the alternative routes under consideration have segments that would be installed in undeveloped vegetated areas, these alternates would mostly be installed within paved roads and parking lots (as with the preferred onshore transmission cable route) and would be approximately the same length. Project-related ground disturbance could extend to a maximum depth of 13 feet below ground level anywhere within the width of this easement. Installation of the onshore transmission cable

would impact approximately 3.1 acres; therefore, only a portion of the 16.7-acre onshore transmission cable envelope would actually be impacted by installation of the onshore transmission cable.

2.3.2.3 Onshore Substation and Interconnection Facility

Construction of the OnSS and ICF would together require disturbance of approximately 11 acres within the terrestrial APE (BOEM 2022a). The maximum depth of disturbance within the OnSS and ICF work area limit is 60 feet below ground surface. The OnSS and ICF would have an underground cable connecting them, and the ICF would have an overhead cable connecting to the adjacent, existing TNEC Davisville substation.

2.3.3 Visual Area of Potential Effects

The APE for potential visual effects (hereafter visual APE) from the Project consists of onshore coastal areas of Connecticut (CT), New York (NY), RI, and MA. Maximum limits of theoretical visibility are represented by 1-mile, 3-mile, and 40-mile radii for each respective onshore or offshore Project component (WTG, OSS, OnSS, ICF, or O&M facility); however, these radii do not define the visual APE. Within these radii, the visual APE is defined only by those geographic areas with a potential visibility of Project components and, therefore, the visual APE excludes areas with obstructed views of Project components. Visibility and views of Project components were determined through a viewshed analysis (EDR 2021a, 2021b, 2021c, 2023). The viewshed analysis applied geographic information system (GIS) modeling to take into account the true visibility of the Project (e.g., visual barriers such as topography, vegetation, and intervening structures that obstruct the visibility of Project components).

Areas with potentially unobstructed views of offshore Project components comprise the APE for above ground historic properties (visual APE); see the shaded visual APE (Offshore Facility Viewshed) and visual APE (Onshore Facility Viewshed) areas in Figures A-3 and A-4. Figure A-4 also depicts reasonably foreseeable future project areas for consideration of cumulative effects within the visual APE.

2.3.3.1 Onshore Project Components

Onshore Project facilities with above ground components include the OnSS and ICF, and these components have a viewshed radius of 3 miles. Onshore Project components where redevelopment of existing facilities could occur (O&M facilities) have a viewshed radius of 1 mile around and include potential O&M facilities at the Port of Davisville at Quonset Point and Port Robinson. The 1-mile radius at the Port of Davisville at Quonset Point O&M facility is completely subsumed within the 3-mile radius around the ICF and OnSS (Figure A-3).

The horizontal extent of the OnSS and ICF, as described under the terrestrial APE at Section 2.3.2.3, would be within an 11-acre area of disturbance. The maximum height of OnSS and ICF equipment would be up to 45 feet above ground, with OnSS shielding masts extending further, up to 65 feet, and the ICF overhead transmission circuit structures reaching up to 80 feet above ground (BOEM 2022a). Facility lighting was considered in the analysis of visual effects.

2.3.3.2 Offshore Project Components

Offshore Project components (e.g., WTGs) have a viewshed radius of 40 miles around the edge of the Lease Area (Figure A-4). The Project [redacted] extends to above ground historic properties in the following cities and towns (EDR 2023):

- RI—Bristol, Charlestown, Cranston, East Greenwich, Exeter, Jamestown, Little Compton, Middletown, Narragansett, New Shoreham, Newport, North Kingstown, Portsmouth, South Kingstown, Tiverton, Warwick, and Westerly;
- MA—Acushnet, Aquinnah, Barnstable, Bourne, Chilmark, Dartmouth, Edgartown, Fairhaven, Fall River, Falmouth, Gosnold, Marion, Mattapoisett, Nantucket, New Bedford, Swansea, Tisbury, Wareham, West Tisbury, and Westport;
- NY—East Hampton and Southold; and
- CT—Groton.

Above ground historic property distribution in the visual APE is mapped on Figure A-4. APE delineation and historic property identification assessed the potential visibility of a WTG from the water level to the tip of an upright rotor blade at a height of 873 feet and further considered how distance and curvature of the Earth affect visibility as space between the viewing point and WTGs increases (EDR 2021c, 2023). Potential WTG and OSS locations and spacing in the Project Lease Area also informed analyses, including when combined with the cumulative development of other reasonably foreseeable offshore wind developments (EDR 2021b). The analysis further considered the nighttime lighting of offshore structures and construction lighting.

3 Steps Taken to Identify Historic Properties

3.1 Technical Reports

To support the identification of historic properties within the APE, Revolution Wind has provided survey reports detailing the results of multiple investigations within the APE (marine, terrestrial, and visual). Table 5 provides a summary of these efforts to identify historic properties and the key findings/recommendations of each investigation. BOEM has reviewed and accepted all reports summarized in Table 5. BOEM found that the preliminary APEs identified by Revolution Wind are appropriate for the magnitude, extent, location, and nature of the undertaking; that the reports collectively represent a good faith effort to identify historic properties within the APE; and that the reports are sufficient to apply the Criteria of Adverse Effect (see Section 4) and to continue consultations with consulting parties for taking into account and resolving adverse effects to historic properties.

3.1.1 Report Summary – Marine

The Marine Archaeological Resources Assessment (MARA) provides the results of the archaeological survey of the seafloor and seabed within the marine APE for historic properties, largely represented by ASLFs and shipwrecks/possible historic shipwrecks. ASLFs represent submerged [redacted] that were inundated by approximately 8,000 years before present (B.P.), with submersion taking several thousand years at the beginning of the Holocene epoch, following the last ice age. Shipwrecks and similar submerged craft or structures of the type found to date sank within the past 400 years, after European colonization of New England. Historic properties (shipwrecks/possible historic shipwrecks and ASLFs) located in the marine APE in the RWF Lease Area and the RWEC corridor are depicted in Appendix B (Figure B-1) (SEARCH 2023:Figure 4-1). Appendix B contains sensitive historic property location information that meets the criteria for confidentiality under Section 304 of the NHPA and, for this reason, is detached from the publicly available copies of the Finding.

3.1.2 Report Summary – Terrestrial

The Terrestrial Archaeological Resources Assessment (TARA) provides the results of land-surface and subsurface-onshore archaeological survey (Phase I archaeological survey) of the terrestrial APE. The RWEC would transition from sea to shore at Quonset Point in RI. Quonset Point is in an area [redacted] extending to the west and southwest of the terrestrial APE (Forrest and Waller 2023). However, construction, operations, decommissioning, and large-scale redevelopment of former military facilities at Quonset Point following World War II has substantially altered the terrestrial APE. Intact pockets of natural soils represent a small percentage of all surficial earth. The proposed OnSS site was used as a general dump site during naval operations (1940s through 1960s); several hundred tons of debris and soil were removed from this dump site during remediation activities in the late 1990s. The pockets of relatively intact natural soils within the terrestrial APE are located within [redacted] work area limits and along the southern margins of the landfall area (Forrest and Waller 2023).

The Public Archaeology Laboratory, Inc. (PAL) contacted the RIHPHC and the Narragansett Indian Tribe, Wampanoag Tribe of Gay Head (Aquinnah), Mashpee Wampanoag Tribe, Mashantucket (Western) Pequot Tribal Nation, and Mohegan Tribe of Indians of Connecticut Tribal Nations to consider and

address tribal concerns within its Phase I archaeological survey area. The archaeological survey [redacted] of the terrestrial APE identified four [redacted] archaeological resources (Forrest and Waller 2023). PAL did not conduct remote sensing (ground-penetrating radar, soil resistivity, magnetometry, or similar techniques). Dense surface vegetation made remote sensing impractical, and twentieth-century dumping, filling, and other ground disturbances and landscape modifications would have produced inconclusive results. The RIHPHC also has not favored remote sensing as a method sufficiently reliable for archaeological site identification in and of itself, preferring ground truthing instead to include the excavation of test pits or other excavation units.

3.1.3 Report Summary – Visual

The onshore and offshore Historic Resources Visual Effects Analyses (HRVEAs) and cumulative HRVEA (CHRVEA) identify the range of above ground historic properties identified in the visual APE for onshore and offshore project facilities, elements, or components (interchangeably). The CHRVEA builds from the results of the HRVEAs to assess where the effects of the Project may combine cumulatively with those of other reasonably foreseeable offshore wind projects (SWCA 2023).

For the onshore components' viewshed, the HRVEA identified a total of 80 above ground viewshed resources, within 3 miles of the proposed OnSS and ICF, that consist of 16 NRHP-listed properties, two properties that have been determined by the RIHPHC to be eligible for the NRHP, nine properties included in the RIHPHC inventory but without formal determinations of NRHP eligibility, and 53 RIHCC-identified Rhode Island Historical Cemeteries (EDR 2021a). Viewshed analyses determined that of these 80 viewshed resources, two are within the visual APE. These two resources are located within the viewshed of the OnSS and ICF. The viewshed analysis determined that neither are within the viewshed of any of the five potential O&M facility locations considered in the COP. At 1.1 miles away from the OnSS and ICF location is the NRHP-listed Wickford Historic District; at 0.25 mile away is the Quonset Point Naval Air Station, determined by the RIHCC to be NRHP eligible (EDR 2021a). The historic Quonset Point Naval Air Station is also addressed in the offshore HRVEA (EDR 2023).

In relation to the offshore Project components, the HRVEA identified a total of 451 above ground historic properties within the visual APE that consist of 98 NRHP-listed properties, 73 historic properties that have been determined eligible for the NRHP, 280 properties included in the RIHPHC, Massachusetts Historical Commission (MHC), or local historic inventories but without formal determinations of NRHP eligibility (EDR 2023). Those without formal determinations of NRHP eligibility are treated as historic properties in the HRVEA and in this Finding. Twelve of the NHRP-listed viewshed resources are also NHLs (EDR 2023). These are the Montauk Point Lighthouse, Block Island Southeast Lighthouse, Original U.S. Naval War College Historic District, Fort Adams Historic District, Battle of Rhode Island Historic District, Nantucket Historic District, New Bedford Historic District, Ocean Drive Historic District, Bellevue Avenue Historic District, The Breakers, Marble House, and William Watts Sherman House (Figure A-5). Three resources documented specifically due to their categorization as TCPs in MA, and where they may extend to the OCS, consist of the [redacted] TCP, the [redacted] TCP, and the [redacted] TCP. These TCPs are represented by broad, complex cultural landscapes and connected seascapes (EDR 2023). The [redacted] TCP is NRHP listed and the [redacted] TCP and the [redacted] TCP have previously been determined NRHP eligible by BOEM.

Table 5. Cultural Resources Investigations Performed by Revolution Wind in the Area of Potential Effects (Marine, Terrestrial, and Visual)

Portion of APE	Report	Description	Key Findings/Recommendations
Offshore	*Marine Archaeological Resources Assessment* (SEARCH 2023)	Assessment of marine archaeological resources through remote sensing technologies of the marine APE	This MARA identified 19 shipwrecks/possible historic shipwrecks and 13 geomorphic features (ASLFs) of archaeological interest. SEARCH concluded avoidance is possible for 20 of the shipwrecks/possible historic shipwrecks through a 164-foot (50-meter) buffer in radius around the extent of the identified resource. Revolution Wind has determined that it would be able to fully avoid four ASLFs (Revolution Wind 2023). Full avoidance was determined not feasible at the remaining nine ASLFs and further action was recommended as necessary.*
Onshore	*Terrestrial Archaeological Resources Assessment Revolution Wind Farm Project Onshore Facilities* (Forrest and Waller 2023)	Phase I archaeological survey for the onshore components to identify terrestrial archaeological sites	This TARA identified four [redacted] archaeological sites. Two of the sites, [redacted] #1 and [redacted] #2, were recommended eligible for the NRHP under Criteria A and D. Full avoidance of the two historic properties was determined not feasible and further action was recommended as necessary (Forrest and Waller 2023).*
Visual	*Visual Impact Assessment and Historic Resources Visual Effects Analysis Revolution Wind Onshore Facilities* (EDR 2021a)	Report analyzing the viewsheds surrounding the O&M, OnSS, and ICF facilities proposed for Quonset Business Park/Quonset Point	This HRVEA identified 80 above ground historic properties within 3 miles of the proposed OnSS and ICF. Viewshed analyses determined that a total of two above ground historic properties are located within the viewshed of the OnSS and ICF but are not within the viewshed of any of the five potential O&M facility locations. One of these historic properties, the Quonset Point Naval Air Station, is additionally reviewed in the offshore HRVEA (EDR 2023). No adverse effects were found to above ground historic properties from proposed onshore project components (EDR 2021a).

* Note: In confidential COP Appendix BB (EDR 2022b), Revolution Wind has proposed further measures to avoid, minimize, and mitigate adverse effects from the Project to historic properties. BOEM continues meeting with consulting parties to take into account the effects of the undertaking on historic properties and to reach resolution of adverse effects through preparation and implementation of a memorandum of agreement (MOA). BOEM has drafted avoidance, minimization, and mitigation measures for historic properties in both the MOA and the historic property treatment plans (HPTPs) attached to the MOA.

Portion of APE	Report	Description	Key Findings/Recommendations
Visual	*Historic Resources Visual Effects Analysis Revolution Wind Farm* (EDR 2023)	Report analyzing the viewsheds from the WTGs and OSS through GIS modeling to determine the area of Project visibility and define the APE for historic properties sensitive to visual effects	This HRVEA identified 451 above ground historic properties within the APE, including 12 NHLs and three TCPs. These historic properties were analyzed with respect to the potential for visual effects. They were assessed according to the visibility of the offshore Project WTGs and OSS and potential Project effect on the characteristics of historic properties that make them eligible for NRHP listing. A total of 101 above ground historic properties would be adversely affected by the Project under maximum potential visibility (EDR 2023). BOEM's further analysis of these results in the CHRVEA finds that the combined visual effects of the Project with those of other reasonably foreseeable offshore wind projects would additionally result in cumulative adverse effects to these 101 historic properties (SWCA 2023). The 101 above ground historic properties that would be adversely affected include five NHLs and two TCPs. Full avoidance of visual effects to the 101 historic properties was determined not feasible and further action was recommended as necessary in the HRVEA and CHRVEA. See * note above.
	Revolution Wind Project Updates to Historic Resources Visual Effects Analysis (Revolution Wind 2022a)	Memorandum reviewing revisions in 2022 to the HRVEA, originally drafted in 2021	This memo summarizes responses to consulting party comments resulting in the refinement—in the HRVEA (EDR 2023)—of the precision of historic property boundaries, the refinement of the identification and evaluation of historic properties, and the refinement of the assessment of Project visual effects to historic properties in the APE in relation to offshore project facilities.
	Revolution Wind Farm National Historic Landmarks (EDR 2022a)	Supplemental documentation with added summaries of NHLs in the APE and visualizations of offshore Project facilities from NHLs	This supplemental documentation further summarizes the historic significance of the 12 NHLs identified in the APE in relation to their aspects of integrity that are connected to sea views. Additional photographs and visualizations (i.e. simulated Project WTGs) for each NHL are included. These visualizations include representations of the visibility of simulated WTGs on the sea and wire-frame visualizations that indicate where WTGs would be positioned behind obstructions, such as treescapes.
	Overview of Revisions to S106 Technical Reports and Document (Revolution Wind 2023)	Memorandum on revisions in 2023 to the TARA, MARA, HRVEA, and historic property treatment plans (HPTPs)	This memo summarizes responses to consulting party comments resulting in the refinement—in the HRVEA (EDR 2023)—of the precision of historic property boundaries, the refinement of the identification and evaluation of historic properties, and the refinement of the assessment of Project visual effects to historic properties in the APE in relation to offshore project facilities.

3.2 Consultation and Coordination with Consulting Parties and the Public

3.2.1 Early Coordination

Since 2009, BOEM has coordinated OCS renewable energy activities for the RI/MA and MA WEAs with its federal, state, local, and tribal government partners through its intergovernmental Renewable Energy Task Force. BOEM has met regularly with federally recognized Native American Tribal Nations (Tribal Nations) that could be affected by renewable energy activities in the area since 2011, specifically during planning for the issuance of offshore wind energy leases and review of site assessment activities proposed for those leases. BOEM also hosts public information meetings to update interested stakeholders on major renewable energy milestones. Information on BOEM's RI/MA and MA Renewable Energy Task Force meetings is available at https://www.boem.gov/Massachusetts-Renewable-Energy-Task-Force-Meetings, and information on BOEM's stakeholder engagement efforts is available at https://www.boem.gov/renewable-energy/state-activities/public-information-meetings.

3.2.2 National Environmental Policy Act Scoping and Public Hearings

On April 30, 2021, BOEM published the notice of intent (NOI) to prepare an EIS for the Revolution Wind COP and published a revised NOI on June 4, 2021 (BOEM 2021a; BOEM 2021b), extending the public scoping period to June 11, 2021. The purpose of the NOI was to announce BOEM's intent to prepare an EIS and to start the public scoping period for the NEPA effort wherein BOEM solicits public input on issues of concern and potential alternatives to be considered in the EIS. Through this notice, BOEM announced that it would use the NEPA substitution process for the Section 106 review for this undertaking, in accordance with Section 106 implementing regulations.

During the public scoping period, BOEM held three virtual scoping meetings for consulting parties and the public, which included specific opportunities for engaging on issues relative to Section 106 for the Project, on Thursday, May 13; Tuesday, May 18; and Thursday, May 20, 2021. Through the NEPA scoping process, BOEM received comments related to cultural, historic, archaeological, and tribal resources. BOEM's EIS scoping report includes these comments (BOEM 2022b).

BOEM published a notice of availability of the draft EIS for the COP on September 2, 2022. As part of this process, BOEM held a 45-day comment period and public meetings (through October 17, 2022), providing further opportunity for engagement on issues pertinent to Section 106 review. BOEM held public hearings on the draft EIS on September 29 and October 4–6 and 11, 2022.

3.2.3 Section 106 Consultation

BOEM sent Section 106 consultation invitations to 127 potential consulting parties pursuant to 36 CFR 800.3(f) of the Section 106 regulations, via mail and email between April 2 and 30, 2021. Additional consulting parties were invited throughout the consultation process, as they were identified. Throughout spring and early summer 2021, as third-party consultant to BOEM, SWCA Environmental Consultants (SWCA) followed up with parties to confirm preferred points of contact and interest in participating. Consequent to BOEM drafting the Finding, BOEM additionally invited entities who may own or

administer adversely affected historic properties and requested Revolution Wind post public notices (in newspapers and at libraries and post offices) notifying the public and interested parties qualified to consult under NHPA Section 106 (36 CFR 800.2). Where appropriate, public notices were posted in both English and Spanish. The organizations BOEM invited to consult beginning in April 2021 and contacted directly in February 2023 are listed in Table 6.

Table 6. Parties Invited to Participate in 106 Consultation

Participants in the Section 106 Process	Invited Consulting Parties
SHPOs and state agencies	Connecticut State Historic Preservation Office
	Connecticut Department of Economic and Community Development
	RIHPHC
	New York State Division for Historic Preservation
	MHC
	Massachusetts Board of Underwater Archaeological Resources
	Massachusetts Commissioner on Indian Affairs
	Rhode Island Department of Environmental Management
Federal agencies	National Park Service (NPS)
	National Oceanic and Atmospheric Administration – Habitat and Ecosystem Services Division
	U.S. Army Corps of Engineers, New England District
	U.S. Army Corps of Engineers, New York District
	Office of the Deputy Assistant Secretary of the Navy for Environment (DASN(E))
	Chief of Naval Operations, Installations Division
	Naval Facilities Engineering Systems Command Headquarters– Cultural Resources
	Naval History and Heritage Command – Underwater Archaeology Branch
	Bureau of Safety and Environmental Enforcement
	U.S. Department of Defense - Office of the Deputy Assistant Secretary of Defense (Environment), Environmental Compliance and Planning
	U.S. Department of Defense - Office of the Assistant Secretary of Defense for Sustainment
	ACHP
	U.S. Coast Guard -Sector SE New England
	U.S. Coast Guard - Marine Transportation Systems (CG-5PW)
	U.S. Coast Guard – First Coast Guard District

Participants in the Section 106 Process	Invited Consulting Parties
	U.S. Fish and Wildlife Service
	Environmental Protection Agency
	Federal Aviation Administration
Federally recognized Tribal Nations	Mashpee Wampanoag Tribe
	Shinnecock Indian Nation
	Mashantucket (Western) Pequot Tribal Nation
	Wampanoag Tribe of Gay Head (Aquinnah)
	Mohegan Tribe of Indians of Connecticut
	Narragansett Indian Tribe
	Delaware Tribe of Indians
	The Delaware Nation
Non-federally recognized Tribal Nations	Chappaquiddick Tribe of Wampanoag Nation
	The Golden Hill Paugussett
	Eastern Pequot Tribal Nation
	Schaghticoke Tribal Nation
	Unkechaug Nation
Local governments	Cape Cod Commission
	City of Newport
	County of Dukes (MA)
	Town of Charlestown
	Town of East Hampton
	Town of Middletown
	Town of Nantucket
	Nantucket Planning and Economic Development Commission
	Town of Narragansett
	Town of North Kingstown
	City of Cranston
	City of East Providence
	City of Fall River
	City of New Bedford
	City New Bedford Historical Commission
	City of Providence
	City of Rehoboth
	City of Taunton

Participants in the Section 106 Process	Invited Consulting Parties
	County of Barnstable (MA)
	County of Bristol (MA)
	County of Plymouth (MA)
	County of Suffolk (NY)
	Town of Acushnet
	Town of Aquinnah
	Town of Barnstable
	Town of Barrington
	Town of Berkley
	Town of Bourne
	Town of Bristol
	Town of Chilmark
	Town of Coventry
	Town of Dartmouth
	Town of Dighton
	Town of East Greenwich
	Town of Edgartown
	Town of Exeter
	Town of Fairhaven
	Town of Falmouth
	Town of Freetown
	Town of Gosnold
	Town of Griswold
	Town of Groton
	Town of Hopkinton
	Town of Jamestown
	Town of Johnston
	Town of Lakeville
	Town of Ledyard
	Town of Little Compton
	Town of Marion
	Town of Mashpee
	Town of Mattapoisett
	Town of Middleborough

Participants in the Section 106 Process	Invited Consulting Parties
	Town of Nantucket
	Town of New Shoreham
	Town of North Stonington
	Town of Oak Bluffs
	Town of Portsmouth
	Town of Richmond
	Town of Rochester
	Town of Sandwich
	Town of Scituate
	Town of Seekonk
	Town of Somerset
	Town of South Kingstown
	Town of South Kingstown Historic District Commission
	Town of Southold
	Town of Stonington
	Town of Swansea
	Town of Tisbury
	Town of Tiverton
	Town of Tiverton Historic Preservation Advisory Board
	Town of Voluntown
	Town of Wareham
	Town of Warren
	Town of Warwick
	Town of West Greenwich
	Town of West Tisbury
	Town of West Tisbury Historic District Commission
	Town of West Warwick
	Town of Westerly
	Town of Westport
	Town of Westport Historical Commission
Non-governmental organizations or groups	Alliance to Protect Nantucket Sound
	Balfour Beatty Communities
	Beavertail Lighthouse Museum Association
	Block Island Historical Society

Participants in the Section 106 Process	Invited Consulting Parties
	Bristol Historical and Preservation Society
	Butler Flats Lighthouse (Mass Light Ltd)
	Clambake Club of Newport
	Cuttyhunk Historical Society
	East Greenwich Historic Preservation Society
	Friends of Sakonnet Light
	Gay Head Lighthouse Advisory Committee
	Martha's Vineyard Commission
	Montauk Historical Society
	Newport Historical Society
	Newport Restoration Foundation
	Norman Bird Sanctuary
	Preservation Massachusetts
	Rhode Island Historical Society
	Salve Regina University
	Southeast Lighthouse Foundation
	The Preservation Society of Newport County
	Revolution Wind (lessee)

Entities that responded to BOEM's invitation to consult or were subsequently made known to BOEM and added as consulting parties are listed in Table 7.

Table 7. Consulting Parties Participating in 106 Consultation

Participants in the Section 106 Process	Participating Consulting Parties
SHPOs and state agencies	Connecticut State Historic Preservation Office
	Connecticut Department of Economic and Community Development
	RIHPHC
	New York State Division for Historic Preservation
	MHC
	Rhode Island Department of Environmental Management
Federal agencies	NPS
	U.S. Army Corps of Engineers, New England District
	U.S. Army Corps of Engineers, New York District
	Office of the Deputy Assistant Secretary of the Navy for Environment (DASN(E))

Participants in the Section 106 Process	Participating Consulting Parties
	Chief of Naval Operations, Installations Division
	Naval Facilities Engineering Systems Command Headquarters–Cultural Resources
	Naval History and Heritage Command – Underwater Archaeology Branch
	U.S. Department of Defense - Office of the Deputy Assistant Secretary of Defense (Environment), Environmental Compliance and Planning
	U.S. Department of Defense - Office of the Assistant Secretary of Defense for Sustainment
	ACHP
	Bureau of Safety and Environmental Enforcement
	U.S. Coast Guard -Sector SE New England
	U.S. Coast Guard - Marine Transportation Systems (CG-5PW)
	Environmental Protection Agency
	Federal Aviation Administration
Federally recognized Tribal Nations	Mashpee Wampanoag Tribe
	Shinnecock Indian Nation
	Mashantucket (Western) Pequot Tribal Nation
	Wampanoag Tribe of Gay Head (Aquinnah)
	Mohegan Tribe of Indians of Connecticut
	Narragansett Indian Tribe
	Delaware Tribe of Indians
	The Delaware Nation
Non-federally recognized Tribal Nations	Chappaquiddick Tribe of Wampanoag Nation
	Unkechaug Nation
Local governments	City of Newport
	County of Dukes (MA)
	Town of Charlestown
	Town of East Hampton
	Town of Little Compton
	Town of Middletown
	Town of Nantucket
	Nantucket Planning and Economic Development Commission
	Town of Narragansett

Participants in the Section 106 Process	Participating Consulting Parties
	Town of North Kingstown
	Town of New Shoreham
Nongovernmental organizations or groups	Block Island Historical Society
	Clambake Club of Newport
	Friends of Sakonnet Light
	Gay Head Lighthouse Advisory Committee
	Newport Restoration Foundation
	Norman Bird Sanctuary
	The Preservation Society of Newport County
	Rhode Island Historical Society
	Salve Regina University
	Southeast Lighthouse Foundation
	Revolution Wind (lessee)

On January 15–17, July 21 and 27, and August 20, 2020; on March 12 and April 9 and August 2 and 13, 2021; February 3, May 2, June 1 and 2, 2022; and January 24 and February 3, 2023, BOEM met with federally recognized Tribal Nations to simultaneously discuss multiple BOEM actions, including BOEM's action on Revolution Wind. Officials with the Mashpee Wampanoag Tribe, Mashantucket (Western) Pequot Tribal Nation, and Wampanoag Tribe of Gay Head (Aquinnah) have attended Project cooperating agency meetings to date. BOEM received comments from the Tribal Nations during June 2021 cooperating agency meetings in the scoping of Project alternatives and weighed these in the identification of alternatives to consider in detailed EIS analyses (BOEM 2022a). See EIS Appendix A at *Government-to-Government Consultation with Federally Recognized Indian Tribes* (BOEM 2022a). The Mohegan Tribe of Indians of Connecticut, the Mashantucket (Western) Pequot Tribal Nation, the Narragansett Indian Tribe, the Wampanoag Tribe of Gay Head (Aquinnah), the Mashpee Wampanoag Tribe, the Shinnecock Indian Nation, the Delaware Nation, and the Delaware Tribe of Indians participated in various meetings. BOEM continues to consult with these and other Tribal Nations on developments in offshore wind and the Project. BOEM is planning additional government-to-government consultations for the future.

In correspondence and subsequent consultation meetings, BOEM requested information from consulting parties on defining the APE and identifying historic properties potentially affected by the proposed undertaking. BOEM held an initial Section 106 virtual consultation meeting with consulting parties on December 17, 2021, reviewing the Project background; NEPA substitution in the Section 106 process, consultation schedule, and timing; and Section 110(f) consultation requirements and BOEM's compliance with these requirements. On February 28, 2022, the historic properties assessment/analysis reports were distributed to consulting parties (MARA, TARA, HRVEAs, and CHRVEA). BOEM held a second Section 106 virtual consultation meeting with consulting parties on April 8, 2022, reviewing technical report information and the agency's preliminary assessment of historic properties. BOEM provided a

revised MARA, offshore HRVEA, CHRVEA and accompanying documents (i.e., a memos on technical report revisions, documentation of response to comments on historic properties assessment and analysis reports, and an updated consultation schedule), and redistributed the previously provided TARA and the onshore HRVEA, on August 1, 2022, and simultaneous to the release of this revised Finding in March 2023. BOEM held the third Section 106 virtual consultation meeting with consulting parties September 27, 2022, reviewing the August 2022 changes to the historic properties assessment/analysis reports and the Finding and draft MOA. On December 5, 2022, BOEM held a consultation meeting with the Town of Aquinnah, focusing on mitigation proposals the Town provided for their historic properties. BOEM held a consultation meeting on NHLs with consulting parties associated with the NHL review on the Project on December 14, 2022, reviewing the 12 NHLs and the supplemental NHL documentation. Meeting summaries and access to recordings of the meetings were made available to consulting parties following each meeting.

In spring and fall 2022, consulting parties provided comments on the distributed historic properties assessment and analysis reports on the identification of historic properties and preliminary considerations of effect on these properties as presented in the MARA, TARA, HRVEAs, and CHRVEA. The fall comments in 2022 included further address of the Finding, draft MOA, and draft EIS. BOEM's responses to all comments were provided in response-to-comment document releases with, and are reflected in, the revised versions of the historic properties assessment/analysis reports, which were distributed to consulting parties in August 2022 and March 2023.

BOEM will continue meeting with consulting parties to take into account the effects of the undertaking on historic properties and to reach resolution of adverse effects through preparation and implementation of a MOA. A draft MOA was provided by BOEM to consulting parties with the release of this Finding. BOEM has scheduled a meeting with consulting parties on April 7, 2023, to further review the results of the Finding and consult upon resolution of adverse effects and refine the MOA. BOEM plans to hold other future consulting party meetings to finalize the MOA and complete the NHPA Section 106 process.

4 Application of the Criteria of Adverse Effect

The Criteria of Adverse Effect under 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 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. According to the regulations (36 CFR 800.5(a)(2)), adverse effects on historic properties include, but are not limited to:

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 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 [Tribal Nations] 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.

4.1 Adversely Affected Historic Properties

4.1.1 Assessment of Effects to Historic Properties in the Marine Area of Potential Effects

As noted in the Introduction (Section 1) to this Finding, BOEM has determined that the undertaking would have an adverse effect on nine historic properties (NRHP-eligible marine cultural resources) within the marine APE (see Table 1). Each of these are ASLF features.

Archaeological surveys within the marine APE identified 32 historic properties within the RWF maximum work area (SEARCH 2023). Of these, 19 are shipwrecks/possible historic shipwrecks and 13 are geomorphic features (ASLFs) of archaeological interest. [redacted]

4.1.1.1 Shipwrecks and Possible Historic Shipwrecks

All 19 shipwrecks/possible historic shipwrecks would be avoided with sufficient buffers by all proposed Project activities that are part of the undertaking, and as a result, there would be no effects to these potential historic properties (SEARCH 2023). Revolution Wind has established a protective buffer extending 50 m (164 feet) from the maximum discernable extent of the shipwreck or unidentified sonar and/or magnetic anomalies delineated in the high-resolution remote sensing survey data sets and would avoid seafloor-disturbing activities within this buffer during construction, operations, and decommissioning activities (SEARCH 2023). BOEM has determined the protective buffer to be sufficient and would require its implementation as a condition of approval if the COP is approved. Because the Project would avoid adverse effects to these shipwrecks/possible historic shipwrecks, which would be eligible for the NRHP based upon their ability to contribute further important historic and archaeological research information under NRHP Criterion D and/or their role in important events in history under NRHP Criteria A, this Finding does not go into detail on their significance and integrity; for greater detail, see the MARA (SEARCH 2023).

4.1.1.2 Ancient Submerged Landforms

As part of the MARA, SEARCH conducted for the COP an inclusive search of pre-contact period archaeological sites (i.e., archaeological sites that were once part of the terrestrial landscape and have since been inundated by global sea level rise during the late Pleistocene and early Holocene) (see BOEM 2020). Revolution Wind followed BOEM (2020), *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR 585*, in identifying and delineating ASLFs and ASLF features with archaeological potential in the marine APE, as described in the MARA (SEARCH 2023). These features may derive their significance from reasons other than their archaeological potential, such as their potential contribution to a broader culturally significant landscape. The MARA applied high-resolution geophysical survey utilizing magnetometer/gradiometer and side-scan sonar, sub-bottom profiler, and seismic data sets to identify ASLF targets or features, then developed a geotechnical testing strategy for collection of vibracore samples to a maximum depth of 20 feet to further refine targets that could be an ancient submerged landscape (SEARCH 2023:Section 3.6).

The vibracore samples recovered were subjected to macrobotanical, pollen, faunal, and radiocarbon sample analyses to further support the identification of marine archaeological sites and to inform the broader paleolandscape reconstruction (SEARCH 2023). Please see the MARA for details on the methods and results of these investigations. Although 13 ASLFs and features were identified that exhibit high archaeological potential, no evidence of human occupation associated with the ASLFs or ASLF features was identified in core samples taken during the submerged cultural resources investigation (SEARCH 2023:Section 5).

The offshore RWF area was once exposed as dry land at the end of the last ice age. Glacial retreat exposed the area beginning approximately 24,000 years before present (B.P.), and it remained exposed until between 11,000 and 8,000 B.P. when sea levels rose to submerge the area (SEARCH 2023). ASLFs are the formerly terrestrial landscapes exposed between the time of glacial retreat and submersion by the sea. Features identified as discrete surviving remnants of these landscapes, albeit submerged, are persisting areas [redacted] ASLFs are a finite resource that [redacted]

[redacted] and serve as an archaeological and scientific source of information for understanding the past climatic regimes, landscapes, and resources present [redacted] during ancient times. [redacted] (Joy 2018; SEARCH 2023). Additionally, low-lying areas only require low-energy sea level rise to reach inundation. With the onset of rapid sea level rise however, these same low-lying environments could have been submerged deeply and quickly, leading to potentially deeply buried, intact former terrestrial soils with higher preservation potential than high-elevation areas (SEARCH 2023). As such, using seismic data sets, sub-bottom profiler data, and preliminary ground model and geologic interpretation SEARCH employed a paleoreconstruction model within the RWF and RWEC areas to identify the ASLFs with the highest potential for preservation. The MARA identified 13 total ASLF features (Target-21 through Target-33). Of these 13, eight are located within the RWEC corridors (Target-21, Target-22, and Target-29 through Target-33 within the RWEC in RI and Target-23 within RWEC on the OCS) and five are located within the RWF area (Target-24 through Target-28) (see Table 1). Horizontal and vertical extents of the 13 ASLFs are presented in Section 5 of the MARA, in detail. Of these 13targets, the MARA states explicitly:

> [redacted] The extent of the intact geomorphic features of archaeological interest within the APE is minimal due to the relatively shallow impacts of the cable installation process, wind turbine layout, post-glacial processes, and marine transgression. (SEARCH 2023:202).

The MARA concluded that nine of the 13 ASLFs (all except Target-27) could be impacted by proposed Project activities, with the recommendation for further consultation to evaluate these nine features. The MARA identified that the RWF and RWEC areas have been subject to heavy erosion and redistribution of sediments through glacial and marine processes, thereby diminishing the chance of identifying preserved, intact ASLFs except for the 13 identified here (SEARCH 2023:Section 6). The majority of the Project's seafloor disturbance—in areas where ASLFs occur—is limited to 3 to 4 m (10 to 13 feet) bsb. [redacted] (SEARCH 2023).

Although geomorphic features (the ASLFs) exhibit high archaeological potential; as the MARA notes, no evidence of human occupation associated with the ASLFs was identified in core samples taken during the submerged cultural resources investigation (SEARCH 2023).

The 13 identified ASLFs are NRHP eligible at minimum for their connection to broad events within [redacted] history under NRHP Criterion A and for their ability to contribute further information to the understanding of that history under NRHP Criterion D, pursuant to 36 CFR 800.16(l) (SWCA 2021a). All ASLF and ASLF features identified in the APE are categorized as sites [redacted] in accordance with the NRHP evaluation criteria (see SWCA 2021a). The 13 ASLF and ASLF features are individually eligible under Criterion A for their associations [redacted] They are individually eligible under Criterion D for the potential to yield important cultural, historical, and scientific information [redacted] prior to 8,000 B.P. Consistent with NRHP Bulletin 15, natural features or sites "unmarked by cultural materials" can be eligible under Criterion D where "the study of the feature, or its location, setting, etc… will yield important information about the event or period with which it is associated" under Criterion A, and "usually in the context of data gained from other sources" (NPS 1997:22).

The ASLF and ASLF features identified within the APE each retain integrity of location, setting, association, and feeling. [redacted] ASLFs occupy a unique location within a relict terrestrial landscape, and the information that their paleosols and positions on the landscape may provide is important in understanding the earliest history of the region (SWCA 2021a). All ASLF and ASLF features were identified in the APE through confirmation of evidence of relict terrestrial surfaces or sediments.

Integrity of setting is important to ASLFs and ASLF features. [redacted] The 13 ASLF features in the marine APE for the Project retain their integrity of setting.

Integrity of association is important for connection of ASLFs and ASLF features [redacted] (SWCA 2021a). The 13ASLF features in the marine APE for the Project continue to convey these associations [redacted]

Integrity of feeling is key to the significance of these properties [redacted] Though now submerged, the ASLFs document the paleoclimate [redacted] through palynological, geochemical, and other analysis points of the prehistoric natural environment. These ASLFs and ASLF features provide well-preserved evidence of the landscape [redacted] (SWCA 2021a). [redacted]

[redacted] (SWCA 2021a). The 13 ASLF features in the marine APE for the Project retain their integrity of feeling. Under NRHP Criteria B and C, insufficient information is available to determine eligibility for the 13 ASLF in the marine APE for the Project.

ASLFs and ASLF features are preserved under limited conditions, making persisting sites rare examples of the property type. However, they retain [redacted] their historic character and significance (SWCA 2021a), in accordance with NRHP Bulletin 15 (NPS 1997). No cultural materials, patterns of design, or elements of workmanship have yet been identified at these ASLFs or ASLF features. The 13ASLF features in the marine APE for the Project are not known to retain integrity of material, workmanship, and design.

BOEM has found that the Project would potentially result in adverse effects to nine of the 13 ASLFs within the RWF and RWEC areas; however, Revolution Wind would use micrositing of project cabling and WTGs to the extent able to avoid these adverse effects (e.g., by placing cabling in younger sediments [redacted] In terms of the Criteria of Adverse Effect, where the ASLFs are not avoidable, the undertaking would result in the permanent, irreversible physical destruction at or damage to nine of the ASLF features (excluding ASLF Target-27). [redacted]

At Target-22, Target-23, Target-24, Target-26, Target-27, and Target-28, final design scenarios could result in full avoidance of physical Project disturbance (Revolution Wind 2022b). At Target-21, Target-29, and Target-30, adverse effects would be limited and minimized by micrositing (SEARCH 2023). Target-25 may not be avoidable by WTG placement under the maximum case scenario, however, it could be avoidable by alternatives where fewer than 100 WTGs would be constructed.

At Target-22, Target-23, and Target-24, complete avoidance is feasible for the RWEC, and Target 26 can be avoided vertically if cable burial depth of 4-6 ft is maintained across the feature, as Revolution Wind intends (Revolution Wind 2022b). At each of these four ASLFs, [redacted] the maximum-case scenario for the RWEC, so impacts would be limited and could be minimized by micrositing (SEARCH 23). At Target-27, project siting would avoid its known extent by excluding all physical Project disturbance from the ASLF feature boundary. At Target-28, WTG placement and workspaces could be microsited to avoid [redacted] the maximum-case scenario for the IAC (SEARCH 23).

At Target-21, Target-29, and Target-30 along the RWEC and at Target-25 along the IAC, [redacted] the maximum-case scenario for the RWEC. As a result, mpacts would be limited and could be minimized by micrositing (SEARCH 2023).

Target-31 is located [redacted] where anchor penetration could impact the feature; therefore, Revolution Wind has committed to avoidance of Target-31 by establishing a no anchor zone to avoid impacts to this feature (Revolution Wind 2023). Target-32 and Target-33 [redacted] would be physically avoided by project impacts (Revolution Wind 2023). Although potential anchoring depths of up to 18 feet bsb also

increase the consideration of the horizontal extent of ASLFs on portions of the RWEC, where deeper anchor depths could occur, the potential for adverse effects to ASLFs are previously accounted for and would not increase given Revolution Wind's commitment to exclusion of anchoring from these ASLF areas (Revolution Wind 2023).

4.1.2 Assessment of Effects to Historic Properties in the Terrestrial Area of Potential Effects

BOEM has determined that the undertaking would have an adverse effect on two historic properties [redacted] archaeological sites) within the terrestrial APE (see Table 2). Overall, the TARA identified four [redacted] archaeological resources. [redacted] (Forrest and Waller 2023). [redacted] #1 archaeological site and the [redacted] #2 archaeological site are eligible for NRHP listing under Criteria A and D and are archaeologically significant (see Table 2).

> [redacted] #1 . . . likely contains significant new information [redacted] #1 is eligible for listing in the National Register under Criteria A and D. (Forrest and Waller 2023:4-24)

> [redacted] #2 Site may contain significant new information on [redacted] #2 Site is eligible for listing in the National Register under Criteria A and D. (Forrest and Waller 2023:4-25)

Revolution Wind is committed to avoiding or minimizing impacts to these sites to the best extent feasible. However, [redacted] plans are unlikely to be able to fully avoid impacts to these two historic properties, and adverse effects would result. Therefore, BOEM will continue to consult with the Tribal Nations, Revolution Wind, other federal and state agencies, and consulting parties to develop and implement an archaeological mitigation/treatment plan to resolve adverse effects that Project construction would have on the [redacted] #1 and [redacted] #2 sites. These mitigation measures would be made a requirement of the MOA for the project. [redacted]

[redacted]

4.1.3 Assessment of Effects to Historic Properties in the Visual Area of Potential Effects

BOEM has determined that the undertaking would have an adverse effect on 101 historic properties within the visual APE for offshore development (see Table 3). Of the 101 above ground historic sites and districts in the visual APE that could be susceptible to visual adverse impacts from the offshore components of the Project, 37 are listed on the NRHP (five of which are also NHLs). The remaining 64 are properties that have been determined to be eligible for the NRHP (a total of 33) or are included in the inventories of the RIHPHC, MHC, or local entities with final determinations of NRHP eligibility pending (a total of 31). The 101 adversely affected above ground historic properties are coastal properties with open ocean viewsheds toward the RWF. They include five NHLs in RI: Southeast Lighthouse on Block Island and Ocean Drive Historic District, Bellevue Avenue Historic District, The Breakers, and Marble House at Newport. They also include two TCPs in MA: [redacted]

Although the visual APE for onshore development also contains two historic properties in the viewshed of the OnSS and ICF, BOEM has determined that no adverse effects would result at these two historic properties. The historic Quonset Point Naval Air Station and Wickford Historic District are within the visual APE of the OnSS and ICF; however, these onshore Project facilities would be in scale and character with the current use of the Quonset Point Naval Air Station and would not introduce contrasting visual elements inconsistent with either that naval air station or with the existing setting of the Wickford Historic District (BOEM 2021a). Although the historic Quonset Point Naval Air Station is also in the range of potential physical effects due to the potential construction of the Project's RWEC landfall and onshore cable siting on Quonset Point, BOEM has determined that physical Project disturbance would not dimmish the integrity of the Quonset Point Naval Air Station and no adverse effects would result.

The HRVEA identified the 101 adversely affected historic properties from 451 above ground historic properties in the viewshed of offshore project components and therefore in the visual APE; 246 of these are in MA, 197 in RI, 6 in NY, and 2 in CT (EDR 2023:Table 3.1.1-1 and Attachment A). To determine visual APE intersections with these 451 historic properties, the HRVEA used the Spatial Join extension in the ESRI ArcGIS® software and refined historic property parcel boundaries to determine which historic properties, identified in files searches and previous historic properties surveys, overlaid with the modeled Project viewshed (EDR 2023; Revolution Wind 2022a). The results of this exercise were then manually reviewed to confirm the location of each resource in areas of potential visibility (EDR 2021). This process was then repeated to determine which resources had visibility of RWF aircraft warning lights and the OSS. Finally, redundant resource points were eliminated, along with contributing resources (e.g., those not individually recorded as historic properties) which were located within historic districts (EDR 2023).

In this Finding, consistent with the HRVEA, "historic districts within the [APE] were counted as a single property regardless of the number of contributing properties located within the [APE] in each district, as it was considered a conservative approach to address potential impacts to the entirety of the district rather than just select properties. Available documentation for NHL and NRHP-listed districts did not always

indicate the total number of contributing properties, or which properties are considered to be contributing to the significance of a given district" (EDR 2023:20). This means that effects to historic districts and the contributing properties within them were considered as a whole, inclusive of those portions of the district that may extend beyond the APE.

> Potential impacts to above-ground historic properties within the [visual]APE which have individual designations apart from the historic districts in which they are located were evaluated on an individual basis. Potential impacts to historic districts within the [visual] APE were considered to the entirety of the district as one property, rather than to each of the contributing properties, as not all contributing properties within historic districts are located in the [visual]APE. This approach is considered to be conservative as far as addressing potential impacts to historic districts as a whole. (EDR 2023:19)

As the HRVEA notes, the primary "potential effect resulting from the introduction of WTGs into the visual setting for any historic or architecturally significant property is dependent on a number of factors, including distance, visual dominance, orientation of views, viewer context and activity, and the types and density of modern features in the existing view (such as buildings/residences, overhead electrical transmission lines, cellular towers, billboards, highways, and silos)" (EDR 2023:101).

> Potential visual effects were assessed by considering a number of factors for each above-ground historic property, including:
>
> - Maritime setting
> - Contribution of views of the sea to the above-ground historic property's significance
> - The location and orientation of the above-ground historic property relative to the shoreline/sea
>
> EDR reviewed the characteristics contributing to historic significance for each of the identified above-ground historic properties that have been determined as part of NRHP resource documentation, or state-level NRHP eligibility determinations (where such documentation was available) to determine whether or not the property had a significant maritime setting. . . . For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. . . .
>
> Significant views to the sea were assessed by desktop review of online mapping systems as well as field observation to determine whether the above-ground historic property has clear, unobstructed views of the sea and whether or not this view contributes to the historic significance of a given property. The distance and direction of view related to the intended historic purpose of above-ground historic properties with maritime setting was also given consideration in this assessment. . . .
>
> Eight distinct and empirical points of measurement were also considered in the assessment of the Project's potential visual effect on above-ground historic properties within the [visual]APE. These points of measurement were determined using the

viewshed analysis generated through ArcGIS as described [above], and are further defined in the [visual impact assessment] VIA (EDR [2021c]). They include the following:

- Distance from the nearest visible WTG
- Blade tip visibility
- WTG Aviation light visibility
- Mid-tower aviation light visibility
- Coast Guard light visibility
- Total acreage of above-ground historic property
- Total acreage of visibility within the above-ground historic property
- The portion of the above-ground historic property (percent of acreage) from which the Project would be potentially visible

. . . While all the resources within the [visual]APE have theoretical views of the wind WTGs, due to the effect of distance, intervening vegetation and buildings/structures, as well as the Earth's curvature on visibility, not all of the resources would have views of full WTGs (i.e., in which the entire WTG structure was visible). In order to provide the most conservative level of analysis of potential Project visibility, the number of WTGs for which WTG blade tips were visible was used in determining the number of WTGs visible from a given above-ground historic property.

Upon a manual review of the viewshed results, it was found that in some cases the amount of potential visibility which was found to intersect . . . above-ground historic property boundaries was relatively small, in some cases single "cells" or "pixels" and would not represent any noticeable amount of actual visibility. Single cells of visibility produced in the viewshed analysis represent 0.00222-acre, or approximately 96 square feet (8.9 sq. m) of space and may be considered erroneous or otherwise not representative of actual visibility. Therefore, although the viewshed analysis indicated that these small portions of the [APE] occur within the boundaries of an above-ground historic property, these above-ground historic properties with only one "cell" of visibility were not considered to have actual views of the Project.

In addition, [many] above-ground historic properties within the [visual]APE have large boundaries (i.e., over 10 acres), so that even a small percentage of the viewshed within such a property's acreage could be relatively large. For example, the Kay St.-Catherine St.-Old Beach Road Historic District (73000052) occupies 303 acres in the City of Newport. The viewshed analysis indicated that four percent of this property had potential views of the RWF. In this case, four percent of the property is approximately 13 acres, which is still a relatively large area of visibility.

> Therefore, this quantitative assessment was intended to provide a baseline level of effects which was then supplemented with a qualitative assessment of the contribution of a property's maritime setting to its historic significance, the level of Project visibility, relationship of specific views towards the Project to the location, design, and historic use of an above-ground historic properties, and the overall sensitivity of each above-ground historic properties to visual effects. (EDR 2023:101–105)

Because relevant "maritime settings vary considerably among the different types of above-ground historic properties" in the visual APE, the HRVEA grouped the historic properties where Project effects would result by resource type and discussed them thematically (EDR 2023:101). The HRVEA found the identified historic properties to be broadly categorizable as follows:

- Native American Sites, Historic Districts, and TCPs;
- Historic Buildings and Structures;
- Lighthouses and Navigational Aids;
- Recreational Properties;
- Historic Cemeteries and Burial Grounds;
- Maritime Safety and Defense Facilities;
- Agricultural Properties;
- Estates/Estate Complexes; and
- Historic Battlefields.

Above ground historic properties within each of these categories tend to be eligible for NRHP listing because of their contributions to important events in history under Criterion A and/or their embodiment of a significant architectural or engineering design, style, or masterful work under Criterion C. TCPs may additionally be eligible under NRHP Criteria B and D for their connections to important people in the heritage of [redacted] and the important information they can provide regarding [redacted] history, respectively. Some of the historic properties also were found to meet several of the NRHP Criteria Considerations before being found eligible for NRHP listing under Criteria A, C, or D (EDR 2023). Additionally, NHLs identified under any category are recognized to "possess exceptional value as commemorating or illustrating the history of the United States" that requires "a higher standard of care when considering undertakings that may directly and adversely affect NHLs" (NPS 2021).

4.1.3.1 Native American Sites, Buildings, Districts, and Traditional Cultural Properties

Six Native American Sites, Buildings, Districts, and TCPs are identified in the visual APE by the HRVEA (Appendix B). These include three recorded as historic resources (non-TCPs) in RI: [redacted] Three TCPs in MA and extending to the OCS were originally documented specifically due to their identification [redacted] as TCPs: [redacted], all of which are represented by broad, complex cultural landscapes and connected seascapes (EDR 2023).

Of the six Native American historic properties in the visual APE, BOEM has determined that the Project would result in visual adverse effects to the [redacted] TCP and the [redacted] TCP due to the proximity of the RWF and due to the importance of the TCPs' views toward the water, where the visual character of the adjoining landscape and seascape contribute to TCP significance.

The common attributes of the TCP historic property type with respect to visual setting are described by EDR (2023:51–52) as follows:

[redacted]

4.1.3.2 Historic Buildings and Structures

There are 251 historic buildings and structures identified in the offshore visual APE (Appendix B). Historic properties of this type "consist mostly of vernacular residences or groupings of residences, with some limited variety of building types within the districts, in addition to historic markers and public parks" (EDR 2023:109). The variety of buildings and structures associated with this type extends to neighborhood commercial districts and buildings (including industrial sites) and includes supporting infrastructure, such as area bridges, that—in composite—made up these settlement areas and supported the livelihoods of the local residents. In other cases, the use of the historic residence has changed to commercial, municipal, institutional, educational, religious, transportation or to other non-residential repurposing (EDR 2023).

Of the 251 historic properties of this type in the visual APE, RI contains 87, MA 162, and CT two (EDR 2023). Of these historic buildings and structures, 48 in RI and MA possess important settings and critical views of the Project (see EDR 2023:Attachment A) and have been determined by BOEM to be subject to adverse effects from the offshore elements of the Project:

Aquinnah, MA
Vanderhoop, Edwin DeVries Homestead
Tom Cooper House
Theodore Haskins House
Gay Head – Aquinnah Town Center HD
3 Windy Hill Drive
71 Moshup Trail
Leonard Vanderhoop House
Gay Head-Aquinnah Coast Guard Station Barracks

Dartmouth, MA
Salters Point

Fairhaven, MA
744 Sconticut Neck Road

Chilmark, MA
Hancock, Capt. Samuel-Mitchell, Capt. West House
Russell Hancock House
Simon Mayhew House
Flaghole
Flanders, Ernest House, Shop and Barn

West Tisbury, MA
Scrubby Neck Schoolhouse

Westport, MA
Westport Point Historic Districts (1of 2)
Westport Point Historic Districts (2 of 2)
Westport Harbor
Gooseneck Causeway

Little Compton, RI
Warren Point Historic District

City of Newport, RI
Kay St.-Catherine St.-Old Beach Rd. HD/The Hill

Middletown, RI
Indian Avenue Historic District
Paradise Rocks Historic District
St. Georges School
Land Trust Cottages
Sea View Villa
Whetstone

South Kingstown, RI
Brownings Beach Historic District

Tiverton, RI
Puncatest Neck Historic District

New Shoreham, RI
Spring Street
Corn Neck Road
Hippocampus/Boy's Camp/Beane Family
Mitchell Farm
Beach Avenue
Peleg Champlin House
Indian Head Neck Road
U.S. Weather Bureau Station
Old Town and Center Roads
Old Harbor Historic District
New Shoreham Historic District
Beacon Hill Road
Capt. Welcome Dodge Sr.
Caleb W. Dodge Jr. House
Lakeside Drive and Mitchell Lane
Pilot Hill Road and Seaweed Lane
Mohegan Cottage/Everett D. Barlow House
Capt. Mark L. Potter House

The HRVEA describes the common attributes of this historic property categorization with respect to the visual setting of the historic properties as follows:

> These above-ground historic property types often are adjacent to and offer clear views of the ocean or are significant due to their development as residential communities. For many above-ground historic properties of this type, a relationship with the Atlantic Ocean is essential to their historic integrity. . . . Historic Buildings and Structures are important elements of cultural heritage within the [APE], within the majority of examples found

along or near the shoreline . . . . While no official documentation relative to the maritime significance of this specific above-ground historic property type is known, several common features are mentioned across the breadth of the individual nomination forms that may be considered as the common attributes with respect to their visual setting:

- Historic maritime (fishing and shipping) economy;
- Location along or near the water;
- Views and vistas of the Atlantic Ocean;
- Vernacular design and locally sourced materials;
- Landscape design derived from the natural environment; and
- Local historic associations. (EDR 2023:53)

Historic buildings and structures . . . occur throughout the study area and in a variety of local contexts. Location and orientation of such properties is critical to understanding the nature of any associated maritime settings. Many historic houses were oriented to local roadways, with the front and rear elevations parallel to the nearby road's alignment. Local roadways along the region's shorelines often parallel the water's edge and historic homes frequently shift in orientation along such coastal roads. This variation in orientation may strongly influence the associated views of marine waters that may form important elements of a property's historic setting. . . . Historic seaside villages, ports and other districts in the study area are commonly characterized by dense development and narrow roadways. The maritime setting for such districts is often obvious and may be expressed through the design and orientation of homes, commercial properties and other buildings, parks, docks, piers, and breakwaters. Depending on the specific characteristics of each district, open ocean views may or may not be available from the majority of historic buildings and other areas within a village. Further, marine viewsheds may encompass limited areas due to the complexity of the shoreline and presence of points, necks, or islands that screen views towards the open ocean. Where ocean versus bay views are available but are tangential to the dominant aspects of maritime viewsheds, changes to those distant ocean views may not diminish the integrity of a seaside village or other historic district. Where ocean views are a dominant aspect of the maritime setting, changes to such viewsheds may diminish the integrity of a historic district, even where views are limited to immediate shoreline sections. (EDR 2023:103–104)

4.1.3.3 Lighthouses and Navigational Aids

There are 20 lighthouses and navigational aids identified in the visual APE (Appendix B). This historic property type, lighthouses in particular, "may be broadly defined as water-related navigation aids to transportation and defense consisting of a light tower, featuring prominent views of the sea, and dominance of the surrounding landscape generally shared among all the individual properties" (EDR 2023:54).

Of the 20 historic properties of this type in the visual APE, MA contains 10, RI eight, and NY two (EDR 2023). Of these lighthouses and navigational aids, 10 in RI and MA possess important settings and critical views of the Project (see EDR 2023:Attachment A) and have been determined by BOEM to be subject to adverse effects from the offshore elements of the Project:

Aquinnah, MA
Gay Head Light

Falmouth, MA
Nobska Point Lighthouse

Gosnold, MA
Tarpaulin Cove Light

New Bedford, MA
Butler Flats Light Station
Clark's Point Light

Jamestown, RI
Beavertail Light

Little Compton, RI
Sakonnet Light Station

Narragansett, RI
Point Judith Lighthouse

New Shoreham, RI
Block Island North Lighthouse
Block Island Southeast Lighthouse NHL

The common attributes of this historic property type with respect to visual setting are described by EDR (2023:56) as follows:

- Direct physical location and/or historic functional relationship with the sea;
- Elevated and prominent views of the sea;
- Visual prominence of the surrounding landscape;
- Isolation or at least spatial dominance of the surrounding landscape; and
- Proximal relationship to shipping lanes.

> Lighthouses and other historic navigation aids in the study area include properties that were intended to serve mariners plying large areas of open water and other properties that served specific navigation routes through the complex and treacherous waters of the region's bays. All of these properties have an obvious association with maritime settings, but the scale of those settings will vary due to the conformation of the local landscape and seas and the design and purpose of each navigation aid. (EDR 2023:102)

4.1.3.3.1 Block Island Southeast Lighthouse National Historic Landmark

Among the identified lighthouses and navigational aids, the Block Island Southeast Lighthouse (Figure 1) has been recognized for its importance to U.S. history as an NHL. The HRVEA describes the property as follows.

Figure 1. Block Island Southeast Lighthouse before it was offset from the bluff edge (Stupich 1988).

> This property is located approximately 12 miles (19.3 km) south of the coast of mainland Rhode Island, on Mohegan Bluff, on the southeast shore of Block Island, approximately 14 miles (22.5 km) from the nearest [Project] WTG. . . . Built in 1874 and fully operational by 1875, [Southeast] Lighthouse consists of a five-story brick tower and a two-and-a-half-story, brick duplex keeper's residence. The duplex residence is connected to a one-and-a half-story kitchen by a hyphen of the same height. It is a rare surviving example of a lighthouse built during a brief period of Victorian Gothic design influence at the U.S. Lighthouse Board and the sole surviving lighthouse of its high-style design. In 1993, the lighthouse structure and dwelling were moved approximately 250 feet (76.2 m) back from the edge of the bluffs to prevent the loss of the above-ground historic property to erosion. The light tower and dwelling were moved as a single mass, including the above-ground elements of the foundations, to retain the historic fabric. The new location preserves the historic relationship of the lighthouse with seacoast … Block Island Southeast Lighthouse was designated an NHL in 1995. (EDR 2023:55)

Block Island Southeast Lighthouse NHL is listed in the NRHP under Criterion A for its national importance in the history of maritime transportation, and under Criterion C for the national significance of its architecture and technology (SWCA 2021b). The maritime setting of the NHL is a key aspect of historic integrity cited in the NHL nomination. The HRVEA found Block Island Southeast Lighthouse NHL in particular to have high visual sensitivity within the visual APE, due to its historic location, setting, and feeling being primarily associated with clear views of the sea and for which public use enhances appreciation of the property's historic use and association with the sea (EDR 2023). Approximately 48% (6 acres) of this approximately 134-acre historic property are within the visual APE

and would have visibility of Project WTGs and OSS (EDR 2023:Attachement A). The visual simulations for this NHL are at KOP BI-04 (day and night) in Appendix C (see also EDR 2022a).

Prudent and feasible alternatives to avoid adverse effects from the Project on the Block Island Southeast Lighthouse NHL and other NHLs, and planning to the maximum extent possible necessary to minimize harm to NHLs, are presented in Section 5 of this Finding.

4.1.3.4 Historic Cemeteries and Burial Grounds

There are 36 historic cemeteries and burial grounds included in the visual APE (Appendix B), consisting of "cemeteries identified by federal, state, or local governmental agencies as having historic significance" (EDR 2023:56). Of the 36 historic properties of this type in the visual APE, RI contains 23 and MA 13 (EDR 2023). RI has specific mandates for documenting historic cemeteries.

Of these, one in RI possesses important settings and critical views of the Project (see EDR 2023:Attachment A) and has been determined by BOEM to be subject to adverse effects from the offshore elements of the Project: Island Cemetery/Old Burial Ground in New Shoreham on Block Island. The Island Cemetery/Old Burial Ground would be adversely affected by the Project because of the characteristically elevated ocean views that are maintained for this memorial resting place and the historically maritime populous that it serves. Otherwise, the secluded nature of properties of this type and their rare occurrence near the shoreline greatly limits visibility, and therefore effects, of the Project.

The common attributes of this historic property type with respect to visual setting are described as follows:

> These above-ground historic properties may be municipally owned cemeteries on public land, small family plots on private land, or abandoned burial grounds. Historic cemeteries are lasting memorials to the past, provide a guide to the changing values and composition of communities in the course of their historic development. . . . Typically, cemeteries and burial grounds are not eligible for listing in the NRHP except when they satisfy NPS Criteria Consideration D: 'd. A cemetery which derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events'. . . . [Attributes include:]
>
> - Secluded or private setting;
> - Designed landscape features;
> - Graves of persons of local, state, or national significance; and
> - Examples of funerary art and/or architecture (i.e., a mausoleum or above-ground crypt). (EDR 2023:56–57)
>
> Where such burial grounds are located near the water they may be associated with ocean or other maritime viewsheds, however, ocean vistas are less likely to have been a significant consideration in the siting of such cemeteries than their larger, more formal counterparts in the region. Where cemeteries are located within districts or other historic settlements strongly associated with maritime settings, such burial grounds may be sited

> to maintain a visual connection to the waters in order to maintain a sense of continuity linking the departeds' final resting places with the environment in which they lived. . . . Maritime views from hillside cemeteries that were intentionally incorporated or framed by landscape designs may be more sensitive to discordant modern elements than those associated with less formal burial grounds that may not have been specifically located to provide ocean views. (EDR 2023:103)

4.1.3.5 Maritime Safety and Defense Facilities

There are 31 maritime safety and defense facilities included in the offshore visual APE (Appendix B), plus one within the onshore visual APE (EDR 2021a). This property type consists of "facilities erected by bureaus of the U.S. Department of Defense or their predecessors and share historic associations with coastal defense" (EDR 2023:57). Although, "These structures vary in their design and construction materials," they "are unified by their historic functions of rescuing and protecting maritime transportation in the area, or for coastal defense" (EDR 2023:57).

Of the 31 historic properties of this type in the visual APE, RI contains 20, MA nine, and NY two (EDR 2023). Of these, 10 in RI and MA possess important settings and critical views of the Project (see EDR 2023:Attachment A) and have been determined by BOEM to be subject to adverse effects from the offshore elements of the Project:

<u>New Bedford, MA</u>
Fort Rodman Historic District
Fort Taber Historic District

<u>Westport, MA</u>
Horseneck Point Lifesaving Station
Gooseberry Neck Observation Towers

<u>Narragansett, RI</u>
Life Saving Station at Narragansett Pier
Fort Varnum/Camp Varnum

<u>New Shoreham, RI</u>
U.S. Coast Guard Brick House
U.S. Lifesaving Station
WWII Lookout Tower – Spring Street
WWII Lookout Tower at Sands Pond

The common attributes of this historic property type with respect to their visual setting are described in the HRVEA as follows:

> The Maritime Safety and Defense Facilities within the [APE] have served to protect and act as rescue stations for the coastal waters of Rhode Island and Massachusetts. These above-ground historic properties were constructed as government buildings that needed open views and access to the ocean to fulfill their functional roles and are therefore located immediately adjacent to the coastline to facilitate direct interaction with the water. For all above-ground historic properties of this type, a physical relationship to the Atlantic Ocean is essential to historic integrity. . . . [Attributes include:]
>
> - Construction commissioned by the federal government for use by a bureau of the Department of Defense;
> - Built for interaction between the structure and ocean-going vessels;
> - Location along or near the water;

- Clear views of the ocean, and/or direct access to the water; and
- Design includes living quarters and functional space. (EDR 2023:58)

Historic military and maritime safety properties along the shoreline will likely be associated with maritime settings. Aesthetic considerations in the siting of such facilities may or may not be expressed in the design of buildings, structures, and landscapes depending on the age and specific functions of the property. Proximity to navigation channels, defensibility, and the presence of existing shipbuilding or repair infrastructure in a broader maritime context may have been significant considerations in the siting of naval facilities. Such factors may not demonstrate a significant association with open ocean viewsheds. The study area includes several significant examples of World War II-era defense structures, including fire control or observation towers designed to monitor specific parts of the maritime environment. Early lifesaving stations were likewise intended to provide for observation of marine waters in the vicinity of known hazards or where storms posed specific risks to sea-going or coastal vessels. Lifesaving stations were also frequently located where rescue boats or other vessels might be safely launched under treacherous conditions. These locations may have included inlets, harbors or coves adjacent to open waters where rescue and recovery efforts would likely be made. (EDR 2023:103)

4.1.3.6 Agricultural Properties

There are 48 agricultural properties included in the visual APE (Appendix B). This property type consists of "historic farm buildings and landscapes which have retained a high degree of integrity and are generally no longer used for their original purpose" (EDR 2023:58).

Of the 48 historic properties of this type in the visual APE, MA contains 33 and RI 15 (EDR 2023). Of these agricultural properties, four in RI possess important settings and critical views of the Project (see EDR 2023:Attachment A) and have been determined by BOEM to be subject to adverse effects from the offshore elements of the Project:

Little Compton, RI
Tunipus Goosewing Farm

Middletown, RI
Bailey Farm

New Shoreham, RI
Champlin Farm
Lewis-Dickens Farm

Although, "Generally, these above-ground historic properties do not derive their significance in any direct way from the ocean or maritime activities" (EDR 2023:58), the HRVEA addresses the four cases where adverse effects would result based on the open or maritime island settings of these particular historic properties. The common attributes of this historic property type with respect to their visual setting are described in the HRVEA (EDR 2023:59) as follows:

- Farmhouses;
- Barns and associated ancillary buildings;

- Large, open fields;
- Fieldstone walls dividing property or grazing space; and
- Locally sourced building materials.

> Historic agricultural properties, including farms, farmhouses, barns and related buildings and structures are relatively common in the study area. Many of these properties were built between 1700 and 1850, after which agricultural economies in New England and New York declined sharply. The historic settings for such properties typically include open, agrarian landscapes which once may have afforded open views of the seas when sited along the shoreline or at higher elevations within the coastal interior. Few of the once expansive agrarian landscapes associated with the historic use of the region's farms survive. Some have been altered by later residential and commercial development and many have been transformed by reforestation. Despite these changes, historic agricultural properties remain an important part of the region's heritage and tangible expression of several centuries of intensive farming that transformed the landscapes throughout southern New England and eastern Long Island. (EDR 2023:102)

4.1.3.7 Recreational Properties

There are 27 recreational properties included in the visual APE (Appendix B). This property type is "defined by the role these properties served in their original functions as places for the resort tourism economy of the late-nineteenth century to flourish" (EDR 2023:59).

Of the 27 historic properties of this type in the visual APE, RI contains 19, MA six, and NY two (EDR 2023). Of these recreational properties, 14 in RI and MA possess important settings and critical views of the Project (see EDR 2023:Attachment A) and have been determined by BOEM to be subject to adverse effects from the offshore elements of the Project:

Aquinnah, MA
Gay Head - Aquinnah Shops Area

Westport, MA
Clam Shack Restaurant

Narragansett, RI
The Towers Historic District
The Towers/Tower Entrance-Narragansett Casino
Ocean Road Historic District
Dunes Club
Narragansett Pier MRA

Middletown, RI
Clambake Club of Newport

New Shoreham, RI
Hygeia House
Nathan Mott Park
Spring House Hotel
Spring Cottage
Miss Abby E. Vaill/1 of 2 Vaill cottages
Hon. Julius Deming Perkins/"Bayberry Lodge"

The common attributes of this historic property type with respect to their visual setting are described in the HRVEA as follows:

> These above-ground historic properties feature beaches, casinos, restaurants, and other buildings and structures built to entertain seasonal vacationers. They are typically located

near the shoreline or immediately adjacent to the sea, and in some cases, are the beaches themselves. The enjoyment of, and interaction with, the sea are integral features of the significance of these above-ground historic properties. In many cases, the beachfront, shoreline, and adjacent ocean waters are prominent features of the historic setting due to their close association with historic recreational activities. . . . [Attributes include:]

- Functionality designed for human interaction;
- Location along or near the water;
- Views and vistas of the Atlantic Ocean;
- Landscaped lawns and gardens; and
- Ancillary buildings, such as garages, caretaker cottages, or sheds. (EDR 2023:59–60)

Seaside resorts, like many other shoreline recreational, commercial, and residential properties, were often sited to take advantage of aesthetically pleasing ocean or maritime views. Depending on location and the conformation of the local shoreline, such properties may be associated with specific bay or cove viewsheds that include limited areas of the open ocean waters. Recreational activities at resorts frequently included swimming and designated beaches where residents and visitors may have spent considerable time during the summer months. Where these features are still present and express a tangible association with the historic resort property, views from beaches may be as important as views from more formal elements of the designed landscape. Likewise, historic hotels and inns became more common elements of the region's shoreline communities in the late 19th century. Such properties were often sited near harbors, ferry landings, rail stations, and public or private beaches and may be associated with similar historic maritime settings. Views to ocean waters or the more intimate bays and coves of the region may have been an integral part of the visitor's motivation for staying in such establishments. Such considerations can be expressed through the inclusion of building and landscape features clearly intended to afford views of ocean. Older taverns and inns in the study area may be found along the working harbors and ports and were intended to serve the fishing, whaling, and related participants in maritime commerce. The design and location of these properties may not show the same influence of aesthetic considerations but will likely also retain a strong association with the waterfront and maritime environment. (EDER 2023:102)

4.1.3.8 Estates and Estate Complexes

There are 28 estates and estate complexes included in the visual APE (Appendix B). This property type "consists of high-style residences, or groupings of residences, typically designed by prominent architects of the nineteenth and early twentieth centuries" (EDR 2023:60).

Of the 28 historic properties of this type in the visual APE, RI contains 21 and MA seven (EDR 2023). Of these, 11 in RI possess important settings and critical views of the Project (see EDR 2023:Attachment A) and have been determined by BOEM to be subject to adverse effects from offshore Project elements:

Jamestown, RI
Horsehead/Marbella

Little Compton, RI
Stone House Inn
Abbott Phillips House

Middletown, RI
The Bluff/John Bancroft Estate

Narragansett, RI
Dunmere

City of Newport, RI
Ocean Drive Historic District NHL
Bellevue Avenue Historic District NHL
The Breakers NHL
Marble House NHL
Ochre Point – Cliffs Historic District
Rosecliff/Oelrichs (Hermann) House/Monroe (J. Edgar) House

The common attributes of this historic property type with respect to their visual setting are described by the HRVEA as follows:

> Estates and Estate Complexes within the [visual]APE transcend the traditional residential above-ground historic property type in their grandeur and scale. These above-ground historic property types often are set upon open tracts of naturalistic or stylized designed landscapes and are often accompanied by a variety of ancillary buildings. For many above-ground historic properties of this type, views of the Atlantic Ocean are essential to their historic integrity. . . . Estates and Estate Complexes are well-known as one of the symbols of cultural heritage in Rhode Island, and the City of Newport in particular. . . . [Attributes include:]
>
> - Location along or near the water;
> - Views and vistas of the Atlantic Ocean;
> - Long driveways meant to offer views of the main house on approach;
> - Landscaped lawns and gardens; and
> - Ancillary buildings, such as garages, caretaker cottages, or sheds. (EDR 2023:61)
>
> Estates built by or for wealthy families have been part of the region's landscapes for centuries and many such properties are located along the shorelines. High style, architect-designed mansions and associated landscapes are characteristic of several areas within the study area and many such properties were sited to take advantage of ocean views. The importance of maritime settings to these properties may be apparent in the design of building features such as veranda, porches, and large windows facing the water or through landscape elements and overall designs that were intended to frame specific views towards the seas. As with many other above-ground historic property types, the conformation of local shorelines and the specific orientation of each property may be important in assessing the association with specific aspects or elements of each associated viewshed. (EDR 2023:102–103)

4.1.3.8.1 Ocean Drive Historic District National Historic Landmark

The Ocean Drive Historic District (Figure 2) is one of four identified estates and estate complexes recognized for its importance to U.S. history as an NHL. The HRVEA describes this NHL as follows.

> The summer homes in the Ocean Drive Historic District feature great variety in style and opulence, ranging from Neoclassical-style mansions to early nineteenth-century farms. In contrast to the adjacent Bellevue Avenue Historic District, however, Ocean Drive (aka Ocean Avenue) is decidedly more bucolic and rural, with greater expanses between structures accentuated by natural and designed landscapes. The national significance of the Ocean Drive Historic District is derived from its architecture, which includes works from McKim, Mead and White, John Russell Pope, and landscape architecture by Frederick Law Olmstead [*sic*] . . . In 2012 an updated statement of significance was appended to the NHL nomination which elaborated and expanded upon the initial areas of Criterion C significance such as architecture and landscape design. The update also addressed additional Criterion A areas of significance such as planning, and engineering related to maritime views and design features purposefully built to interact with the shoreline and the ocean. The updated nomination materials also included a detailed account of the evolution of Ocean Drive as a "pleasure drive" to accompany the development of the inland areas as an upper-income resort suburb. (EDR 2023:145)

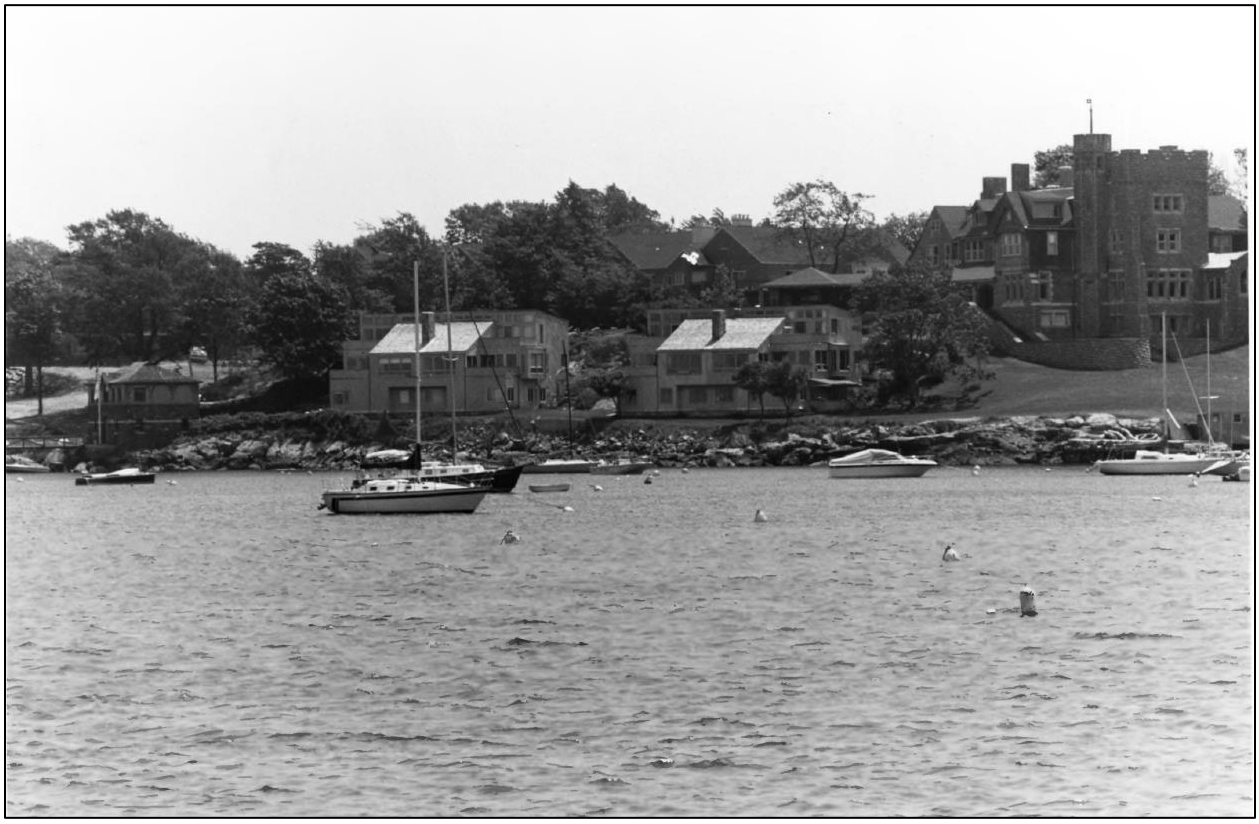

Figure 2. Ocean Drive Historic District photographed from the sea (NRHP 1976).

> [Olmsted's] landscape architecture firm . . . was involved in at least two subdivisions and 15 private contract designs within the district. These designs include properties situated on dramatic overlooks, and along Ocean Drive. Clearly this roadway was specifically constructed to take advantage of ocean views. (EDR 2023:145)

The Ocean Drive Historic District NHL was made up of 45 contributing properties located in an over-1,500-acre district in a suburban/rural setting encompassing most of the peninsula southwest of the City of Newport (SWCA 2021b). The NRHP nomination finds the district eligible under Criteria A and C in the areas of architecture, landscape architecture, community planning, conservation, and environmental preservation (SWCA 2021b). The NHL program focuses on the district architecture and landscape, providing the following statement of national significance, "This large historic district… has a rugged, informal character, as compared with the formal aspect of the Bellevue Historic District. It includes early farms and elaborate summer homes, as well as landscapes designed by Olmsteds' firm to accord with the natural contours of rocky cliffs, green hills and pastures. The area was favored by 19th-century industrial magnates and the social elite" (NPS 2012). The Ocean Drive Historic District NHL and its contributing buildings tend to retain integrity of location, design, materials, workmanship, association, feeling, and setting (SWCA 2021b). An estimated 15% (261 acres) of this approximately 1,756-acre historic property are within the visual APE and would have visibility of Project WTGs and OSS (EDR 2023:Attachement A). The visual simulations from Newport Cliff Walk at KOP AI-03 in Appendix C represents the key views from the shorelines and NHLs at Newport, RI. See EDR (2022a) for supplemental visualizations that are specific to the Ocean Drive Historic District NHL.

Prudent and feasible alternatives to avoid adverse effects from the Project on this and other NHLs, and planning to the maximum extent possible necessary to minimize harm to NHLs, are presented in Section 5 of this Finding.

4.1.3.8.2 Bellevue Avenue Historic District National Historic Landmark

The Bellevue Avenue Historic District (Figure 3) is one of four of the identified estates and estate complexes recognized for its importance to U.S. history as an NHL. The HRVEA describes this historic property as follows.

Figure 3. Chateau-sur-mer in the Bellevue Avenue Historic District (Boucher 1969; NRHP 1972).

> Newport is one of the most spectacular assemblages of American architecture from its beginning to our own time. There are structures in this district that could never be built again in such close proximity, nor possessing such variety, nor by a group of such distinguished architectural firms. This district begins with several commercial blocks including the Casino, continues with the Gothic Revival villas, and includes the "Stick Style" and Shingle Style and culminates in the great 19th century summer palaces of Bellevue Avenue and Ochre Point. The list of architects embraces almost every major designer of that time and what emerges at Newport is also a study of the development of the taste and skill of men like Richard Upjohn, Richard Morris Hunt and McKim, Mead and White over their professional careers.
>
> The Bellevue Avenue Historic District National Historic Landmark is approximately two miles long and consists of 87 contributing properties . . . occupying several blocks along Bellevue Avenue, from Memorial Boulevard in the north, to Block Island Sound in the south, in the City of Newport. Spring Street and Cogshell Avenue form the western boundary of the district, while Narragansett Bay forms the eastern boundary. From north to south, this district features two miles of commercial blocks and villas, notably ending in the south with the grand and palatial nineteenth-century estates of wealthy summer residents. (EDR 2023:A-25)

The district possesses many distinctive examples of high-style architecture. While the significance statement in the NRHP-nomination of the district does not explicitly reference the ocean, the views of the ocean were essential to the planning and construction of the contributing buildings (SWCA 2021b). The district contains contributing buildings that are also individually recognized as NHLs, specifically The Breakers NHL and Marble House NHL. The NRHP nomination finds the district significant in the areas of architecture, landscape architecture, and commerce (SWCA 2021b). The significance focuses on aspects of the district that make it NRHP-eligible under Criterion C, for the embodiment of distinctive characteristics of a type, period, or method of construction, that represent the work of a master, and possess high artistic values. Significance in the area of commerce further provides for the NRHP-eligibility of the district under Criterion A for its relation to important events in the historic development of Newport (SWCA 2021b). The NHL program more fully focuses on the district architecture, providing the following statement of national significance, "An assemblage of American architecture distinguished by the variety of styles and famous architectural firms represented, the district includes Gothic Revival villas, Stick- and Shingle-style buildings, and great summer palaces of the late 19th century" (NPS 2015a). The Bellevue Avenue Historic District NHL and its contributing buildings tend to retain integrity of location, design, materials, workmanship, association, feeling, and setting (SWCA 2021b). About 13% (over 70 acres) of this approximately 600-acre historic property are within the visual APE and would have visibility of Project WTGs and OSS (EDR 2023:Attachement A). The visual simulations from Newport Cliff Walk at KOP AI-03 in Appendix C best represent the views from the NHLs on Newport shores. See EDR (2022a) for more visualizations that are specific to the Bellevue Avenue Historic District NHL.

4.1.3.8.3 The Breakers National Historic Landmark

The Breakers (Figure 4) is an estate/estate complex recognized for its importance to U.S. history as an NHL and located in the Bellevue Avenue Historic District NHL. The HRVEA describes this NHL:

> The Breakers . . . is located on at Ochre Point Avenue in Newport, Rhode Island, approximately 16 miles (25.7 km) from the nearest [Project] WTG. . . . The estate was designed by Richard Morris Hunt and built between 1893 and 1895 for Cornelius Vanderbilt II. It emulates a sixteenth-century, northern Italian palazzo. Elaborate façade work and imposing mass are featured in the architecture and speak to the substantial power and wealth of the original residents. The estate is significant for its historic associations with America's first architect trained at the Ecole Des Beaux-Arts, Richard Morris Hunt, and for being the largest and perhaps most famous Newport estate built by wealthy patrons at the turn of the twentieth century. . . . The Breakers was individually listed in the NRHP in 1971. . . . and designated an NHL in 1994. (EDR 2023:61)

Figure 4. The Breakers in the Bellevue Avenue Historic District (NRHP 1971a).

The NRHP nomination finds The Breakers significant in the areas of architecture, social history, and transportation (SWCA 2021b). The significance focuses on aspects of the historic property that make it NRHP-eligible under Criterion C, for the embodiment of distinctive characteristics of a type, period, or method of construction, that represent the work of a master, and possess high artistic values. Significance in the area of social history and transportation further provides for the NRHP-eligibility of the historic property under Criterion A for its relation to important events associated with high society in the historic development of Newport and the social position and wealth of the Vanderbilts arriving from the railroad industry. The NHL nomination further indicates eligibility of The Breakers under NRHP Criterion B for significant association with Cornelius Vanderbilt II and Richard Morris Hunt (SWCA 2021b). The NHL program focuses on architecture, providing the following statement of national significance, "The Breakers is the architectural and social archetype of the Gilded Age, a period when members of the Vanderbilt family were the merchant princes of American life through their prominence in the world of finance, as patrons of the arts, and as vanguards of international society. In 1895, the year of its completion, The Breakers was the largest, most opulent house in a summer resort considered the social capital of America. It was built for Cornelius Vanderbilt II (1843-1899), a key figure in American railroads, philanthropy, and fashionable society, and designed by Richard Morris Hunt (1827-1895), one of the founding fathers of architecture in America" (NPS 2006). The Breakers NHL retains integrity of location, design, materials, workmanship, association, feeling, and setting (SWCA 2021b). About 29% (5 acres) of this approximately 16-acre historic property are within the visual APE and would have visibility of Project WTGs and OSS (EDR 2023:Attachement A). The visual simulations from Newport Cliff Walk at KOP AI-03 in Appendix C best represent the views from the NHLs on Newport shores. See EDR (2022a) for more visualizations that are specific to The Breakers NHL.

4.1.3.8.4 Marble House National Historic Landmark

Marble House (Figure 5) is an estate/estate complex recognized for its importance to U.S. history as an NHL and is also located in the Bellevue Avenue Historic District NHL. Marble House is described as follows.

Figure 5. Marble House in the Bellevue Avenue Historic District (NRHP 1971b).

> Marble House (71000025) is a three-story Neoclassical mansion located on Bellevue Avenue in Newport. It was commissioned by William Vanderbilt, designed by famed architect Richard Morris Hunt and constructed 1892. Built with an imposing architectural scale and clad in Tuckahoe white marble, it is one of the stateliest mansions contributing to the NHL-listed Bellevue Avenue Historic District. The property was individually listed on the NRHP before the district was nominated. (SWCA 2021b:30)

The NRHP nomination finds the Marble House significant in the areas of architecture and social history (SWCA 2021b). The significance focuses on aspects of the historic property that make it NRHP-eligible under Criterion C, for the embodiment of distinctive characteristics of a type, period, or method of construction, that represent the work of a master, and possess high artistic values. Significance in the area of social history further provides for the NRHP-eligibility of the historic property under Criterion A for its relation to important events in the historic development of Newport. The NHL nomination additionally finds Marble House eligible under NRHP Criterion B for its significant associations with Alva Belmont and William K. Vanderbilt (SWCA 2021b). The NHL program focuses on architecture, providing the following statement of national significance, “Inspired by the Petit Trianon (1760-1764) a garden retreat on the grounds of Versailles, the house’s French inspired interiors were designed by Jules Allard and

Sons, of Paris. A virtual showcase of various French styles and built with seemingly endless financial resources, the house was unparalleled in design and opulence in its day. The economic influence of the Vanderbilts and their financial and cultural power in America were expressed in the family houses and their patronage of American architecture. As one of the earliest of the Beaux Arts houses to appear in America, it would influence the design of architecture thereafter. Today, Marble House is a testament to the architectural genius of Richard Morris Hunt and the spirit of America's 'Gilded Age.'" (NPS 2015b). The Marble House NHL retains integrity of location, design, materials, workmanship, association, feeling, and setting (SWCA 2021b). About 5% (one-third acre) of this approximately 6-acre historic property are within the visual APE and would have visibility of Project WTGs and OSS (EDR 2023:Attachement A). The visual simulations from Newport Cliff Walk at KOP AI-03 in Appendix C best represent the views from the NHLs on Newport shores. See EDR (2022a) for more visualizations that are specific to the Marble House NHL.

4.1.3.9 Historic Battlefields

There are four historic battlefields included in the visual APE, which "consist of typically large landscapes across which the events of historic military actions took place" and, within these, "any number of more focused and specific points of significance may exist, while the collective significance of the events of the battle is broader" (EDR 2023:61).

Of the four historic properties of this type in the visual APE, MA contains three and RI one (EDR 2023). Of these, one historic battlefield in MA, the Westport Point Revolutionary War Properties, would be subject to adverse effects from the Project.

The common attributes of this historic property type with respect to their visual setting are described by the HRVEA as follows:

> These types of above-ground historic properties are typically spread out over large areas, sometimes encompassing entire town centers or portions of townships. They may include landscapes, buildings, or water features which were integral to the outcome of the struggles which took place in their midst. In some cases, these features have been significantly altered from the time of the battles. . . .
>
> [R]egarding the visual setting of battlefields with regard to their significance, as in most cases the significance of an historic battlefield lay in their historic context and the physical struggles that took place on them. However, there are some characteristics which may be generally common to Historic Battlefields:
>
> - Natural features which influenced military operations;
> - Military engineering works (trenches, forts);
> - Sites of engagement; and
> - Corridors of movement. (EDR 2023:62)
>
> Properties of this type are mostly inland and will only have visibility in isolated areas within their boundaries, or in the small areas where their boundaries touch the shoreline.

> The potential effects of the Project are further mitigated because the significance and setting of these properties are characterized by terrestrial conflict, and not from pristine views of the seascape or relationship to the ocean. (EDR 2023:115)

4.1.3.10 Summary of the Assessment of Adverse Effects and Cumulative Effects to Historic Properties in the Visual Area of Potential Effects

The 101 adversely affected historic properties within the visual APE for onshore and offshore development retain their maritime setting, and that maritime setting contributes to the property's NRHP eligibility and continues to offer significant seaward views. These seaward views support the integrity of the maritime setting and include vantage points with the potential for an open view from each property toward RWF WTGs (EDR 2021b, 2023). For historic properties where BOEM has determined the Project would cause adverse effects, BOEM then assessed whether those effects would be additive to the potential adverse effects of other reasonably foreseeable actions at the 101 historic properties, thereby resulting in cumulative effects (see SWCA 2023).

BOEM reviewed the HRVEA's list of historic properties assessed as likely to be adversely affected by the Project and all information and comments provided by consulting parties in correspondence and at meetings to date to inform determinations of adverse effects including visual and cumulative effects.

BOEM (2022a) has determined that options to reduce the number of RWF WTGs under any action alternative for the Project (see Table 1) would effectively minimize visual effects because there would be fewer WTGs constructed and visible from the affected historic properties (see also Section 5). However, none of the alternatives would completely avoid visual adverse effects for the 101 above ground historic properties.

The cumulative effects analysis quantified the total number of WTGs from all planned future developments theoretically visible (daytime or nighttime) within the APE (EDR 2021b). This analysis projected that the development of additional wind farms in the RI/MA WEA would result in the construction of nearly 1,000 WTGs (EDR 2021b, 2023; SWCA 2023). The project would contribute proportionally from nearly 10% to nearly 90% of the cumulative adverse effect, owing to the location and intensity of the foreseeable build-out attributed to other offshore wind energy development activities. This is based on full buildout of the Project (up to 100 WTGs and two offshore substations [OSS]) and all other reasonably foreseeable offshore wind projects currently planned in the APE (modeled at 955 WTGs and three OSSs [EDR 2021b]). The proportion of visible WTG elements added by the project ranges from 9.6 percent at [redacted] TCP, where all modeled WTGs and OSS would potentially be visible, to 87.2 percent at the historic U.S. Weather Bureau Station at Block Island, where the Project WTGs would potentially be visible in greater numbers than the combination of all other future wind farms planned in adjacent OCS lease areas (41 Project WTGs would potentially be visible there versus six WTGs from other planned projects) (SWCA 2023). Intensity of visual impacts from WTG and OSS development would reduce with distance from historic properties and lighting and design actions that would be taken by Revolution Wind to minimize impacts; however, cumulative effects would not be fully eliminated at the 101 adversely affected historic properties.

BOEM has found that the Project would have adverse visual effects on the 101 historic properties listed in Table 3. Per the Criteria of Adverse Effect, the undertaking would introduce visual Project elements that

diminish the integrity of these historic properties' significant historic features. BOEM did, however, determine that due to the distance and open viewshed, the integrity of the properties would not be so diminished as to disqualify any of them from NRHP eligibility.

Although the HRVEA identified 350 other above ground historic properties on mainland RI and MA within the visual APE of offshore Project components, BOEM has determined that either no effects or no adverse effects would result at these historic properties, based on the justifications provided in the HRVEA (see EDR 2023:Attachment A). While their size and siting may afford many of these historic properties some view toward the Lease Area, for some these views will not be critical to their integrity and for others existing buildings, vegetation, and elements of the built environment result in limited, screened views. Existing buildings and infrastructure are also often accompanied by preexisting nighttime lighting that would reduce the visibility of farther off Project lighting. Visibility would be further minimized based on distance between onshore historic properties and offshore Project components. With increasing distances between historic properties and the RWF, atmospheric, environmental, and other obscuring factors, such as fog, haze, sea spray, wave height, and normal viewer acuity, serve to further minimize the visual intrusion posed by offshore WTGs. The ability of these 350 historic properties to convey the significance of their architectural and social history would be unaltered by the Project.

BOEM reviewed the assessment in the HRVEAs and CHRVEA and has determined that the Project would result in no adverse effects to any above ground historic properties identified in the visual APE beyond the 101 historic properties identified as adversely affected in Table 3.

5 Actions to Avoid, Minimize, or Mitigate Adverse Effects

As a requirement of COP approval, BOEM would stipulate the avoidance of historic properties identified in the APE and not currently found to be subject to adverse effects from the Project. This includes considering all prudent and feasible alternatives to avoid adverse effects on the NHLs, as discussed below.

For unavoidable adverse effects to historic properties, additional minimization and mitigation measures would be developed in consultation with the appropriate parties. This includes, to the maximum extent possible, taking such planning and actions as may be necessary to minimize harm to any NHL that may be directly and adversely affected by an undertaking.

Avoidance, minimization, and mitigation measures would be implemented through execution of an MOA by BOEM and the required signatories to resolve adverse effects under Section 106. Simultaneous to the release of this Finding, BOEM is releasing its *Draft Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Connecticut, Massachusetts, New York, and Rhode Island, and the Advisory Council on Historic Preservation Regarding the Revolution Wind Farm and Revolution Wind Export Cable Project* for consulting party review. The MOA would be finalized and its requirements set by BOEM under NHPA Section 106 as a condition of BOEM's signing the ROD, completing the NEPA review. Avoidance, minimization, and mitigation measures for historic properties are drafted in both the MOA and the HPTPs attached to the MOA. Under the MOA, adverse effects from the Project to historic properties, including NHLs, would be avoided, minimized, or mitigated in accordance with the NHPA Section 106 regulations (36 CFR 800) and in compliance with Section 110(f). The MOA also includes post-review discovery plans for onshore and offshore cultural resources, should previously undiscovered or unimpacted historic properties be identified. The post-review discovery plans would be implemented to assess and resolve any inadvertent adverse effects to these historic properties. Any historic properties that are discovered post-review, if adversely affected, would be resolved through the Section 106 consultation process detailed in these post-review discovery plans and the MOA.

5.1 Alternatives Considered

BOEM used the NEPA review process to consider a range of feasible alternatives to the maximum-case scenario of the Project's Proposed Action. That maximum-scenario would result in construction, operation, maintenance, and conceptual decommissioning of up to 100 WTGs and two OSS at the RWF. Alternatives considered would reduce the number of proposed WTGs. Analyses have found that reductions in WTG numbers will help minimize the adverse effects on above ground historic properties in the visual APE and ASFLs in the marine APE. However, no alternative meeting the purpose and need of Project development in the Lease Area would fully avoid adverse effects to historic properties, including from visual impacts to NHLs.

5.1.1 National Historic Landmarks

As the NPS (2021) conveys, "Section 110(f) of the NHPA requires that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect NHLs. The law

requires that agencies, 'to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark.' In those cases when an agency's undertaking directly and adversely affects an NHL… the agency should consider all prudent and feasible alternatives to avoid an adverse effect on the NHL." The implementing regulations for Section 106 of the NHPA at 36 CFR 800.10 provide special requirements for protecting NHLs and complying with the NHPA Section 110(f).

In considering the other factors suggested by NPS, BOEM recognizes there is generally substantial and highly supportive public interest in using the OCS to develop clean energy sources. For instance, Executive Order 14008 in 2021 declared it the policy of the United "to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach that reduces climate pollution in every sector of the economy… and spurs well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure." This undertaking contributes to these goals.

BOEM has planned and is taking action to avoid adverse effects on NHLs in accordance with NHPA 110(f) and pursuant to The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act (NPS 2021). Under all Project alternatives (BOEM 2021c), BOEM would avoid adverse effects to seven of the 12 NHLs in the visual APE: the Montauk Point Lighthouse, Original U.S. Naval War College Historic District, Fort Adams Historic District, Battle of Rhode Island Historic District, Nantucket Historic District, New Bedford Historic District, and William Watts Sherman House. This avoidance of adverse effects would be accomplished by taking advantage of existing obscuration, consisting of intervening factors such as curvature of the Earth, and atmospheric and environmental factors like fog, haze, sea spray, and intervening buildings, vegetation, and topography, which are enhanced with increasing distances between WTGs and historic properties. In addition, BOEM reviewed other NHLs in the vicinity, including the steamship *Sabino* in CT and the Newport Historic District in RI and determined these to not be in the APE. The *Sabino* only travels within 35 miles of the Project on tours and the Newport Historic District NHL, once distinguished from other adjoining historic district boundaries in the City of Newport, was found to be across Newport Neck from the Project without open ocean views of the RWF (EDR 2023; Revolution Wind 2022a).

BOEM has determined that five NHLs in RI would be adversely affected by the Project: Southeast Lighthouse on Block Island and Ocean Drive Historic District, Bellevue Avenue Historic District, The Breakers, and Marble House at Newport. BOEM has notified the NPS (as delegate of the Secretary of the Interior) and the ACHP of this determination with distribution of this Finding. The ACPH and NPS have been active consulting parties on the Project since BOEM invited them to consult at the initiation of the NHPA Section 106 process on the Project on April 6 and April 29, 2021, respectively. BOEM is fulfilling its responsibilities to give a higher level of consideration to minimizing harm to NHLs, as required by NHPA Section 110(f), through implementation of the special requirements outlined at 36 CFR 800.10 (BOEM 2021a).

Given the location of the lease and number of WTGs proposed, constraints on the necessary generation capacity for the project to be feasible, and the distance of the Lease Area to the shorelines of Block Island and Newport (see Figure A-5), BOEM determined that all feasible alternatives, including all feasible WTG layouts, would result in adverse visual effects on these five NHLs. Because of all these factors, the

only alternative that BOEM was able to identify that avoids any Project effects on these NHLs was the no-action alternative. In the EIS, BOEM (2022a) has identified alternatives that reduce the number of WTGs by from the maximum-case scenario of the Proposed Action. While the differences between alternatives may be variable, alternatives for reduction in WTG numbers would all reduce visual effects on the NHLs and other adversely affected historic properties due to the fact that fewer WTGs would be constructed and therefore visible from above ground historic properties. Additionally, fewer WTGs could lessen the potential for physical disturbance of ASLFs on the seafloor, such as through providing greater flexibility for avoidance by cables and seafloor work areas.

When prudent and feasible alternatives "appear to require undue cost or to compromise the undertaking's goals and objectives, the agency must balance those goals and objectives with the intent of section 110(f)" (NPS 2021). In this balancing, the NPS suggests that agencies should consider "(1) the magnitude of the undertaking's harm to the historical, archaeological and cultural qualities of the NHL; (2) the public interest in the NHL and in the undertaking as proposed, and (3) the effect a mitigation action would have on meeting the goals and objectives of the undertaking" (NPS 2021). For the Project, the magnitude of the visual effects on the five NHLs is minimized by the distance between proposed offshore WTGs and the onshore NHLs and other factors (such as obscuring factors) limiting views between Project WTGs and the five NHLs. Moreover, while the undertaking would affect the historic setting of the NHLs, it would not affect other character-defining features or aspects of the NHL's historic integrity. The five NHLs, should the undertaking proceed, would still illustrate their regional and national significance, and continue to exemplify their national importance.

Through consultation, BOEM would refine minimization measures to the maximum extent feasible and further develop mitigation measures of adverse effects that remain at the five NHLs after the application of minimization efforts. BOEM would identify and finalize mitigation measures specific to each NHL with the consulting parties through development of the MOA. Mitigation measures for adverse effects to NHLs must be reasonable in cost and not be determined using inflexible criteria, as described by the NPS (2021). Mitigation of adverse effects to the five NHLs would meet the following requirements:

- reflect the heightened, national importance of the property and be appropriate in magnitude, extent, nature, and location of the adverse effect;
- focus on replacing lost historic resource values with outcomes that are in the public interest, such as through development of products that convey the important history of the property;
- comply with The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (NPS 2017).

5.1.2 Action Alternatives that Would Minimize the Adverse Effect of the Project

The Proposed Action (Alternative B) would construct, operate, maintain, and perceivably decommission up to 100 WTGs of 8 to 12 MW each and up to two OSS; whereas, Alternative C (Habitat Alternative) would include 64–65 WTGs, Alternative D (Transit Alternative) would include 78–93 WTGs, Alternative E (Viewshed Alternative) would include 64–81 WTGs, and Alternative G (Preferred Alternative) would include 65 WTGs. Alternative F (Higher Capacity Turbine Alternative) would combine with action alternatives C or E1 to use 14 MW WTGs within the PDE of the 12 MW WTGs and thereby use fewer

WTGs, reducing overall numbers to as few as 56 WTGs (see Table 4). BOEM has identified a preferred alternative for the final EIS that would be a combination of the alternatives analyzed in the EIS; however, it would result in no changes to BOEM's finding of adverse effect for the Project. BOEM's final decision will be described in the record of decision (ROD).

5.1.2.1 Minimization of Visual Adverse Effect

Reduction in WTG numbers was analyzed in the EIS to have the following opportunities to reduce visual impacts to above ground historic properties, which would additionally minimize harm to NHLs. Compared to the maximum-case scenario under the Proposed Action, Alternatives C through F could decrease impacts to historic properties from visibility of offshore wind structures and from the construction and installation lighting on these structures because the number of constructed WTGs and their viewshed would be reduced in the following manners (see BOEM 2022a:Table 3.10-7).

WTG structure and lighting visibility would be reduced from up to 100 WTGs under the Proposed Action to:

- 64 or 65 WTGs (up to 35% to 36% less, respectively) under Alternative C.
- 78 to 93 WTGs (up to 7% to 22% less) under Alternative D. These visual impacts under Alternative D would remain greater than those of Alternative C. Alternative D3 would specifically remove the closest seven WTG locations to Block Island and have an increased advantage for reducing visual impacts on above ground historic properties on the shores of that island over other action alternatives, except Alternative E2, which would remove even more WTGs on the Block Island side of the RWF.
- 64 to 81 WTGs (up to 36% to 19% less) under Alternative E. The Alternative E1 configuration, in particular, would reduce the proximity of WTGs to Martha's Vineyard and toward mainland RI. Alternative E2 would remove the closest WTGs to Martha's Vineyard and be most advantageous for reducing WTG proximity to Block Island; however, it would not be as effective overall as Alternative E1 for reducing WTG proximity to onshore areas. Although the distance of WTGs from Martha's Vineyard would increase under Alternative E specifically compared to other alternatives, the total number of WTG impacts would remain greater than those of Alternative C and would reach the potential lower WTG numbers and impacts of Alternative D. Alternative E is primarily focused on setbacks of WTGs from Martha's Vineyard and would effectively increase distances of Project WTGs to historic properties there, especially under Alternative E1. This especially includes increased setbacks from historic properties [redacted] inclusive of the Edwin DeVries Vanderhoop Homestead, Gay Head Light, and Gay Head - Aquinnah Shops. Alternative E also further increases setbacks from Newport and Block Island, including the Breakers, Marble House, and the Ocean Drive Historic District, Bellevue Avenue Historic District, and Southeast Lighthouse NHLs. The Alternative E setbacks for RWF WTGs would increase the distances to historic properties at Aquinnah by between approximately 0.25 and 1 mile, at Newport and mainland RI by approximately 4 miles, and at Block Island variably beginning at less than 1 mile and extending to over 4 miles. Therefore, Alternative E would be more effective in reducing visual impacts from the nearest potential WTGs to historic properties at Martha's Vineyard, MA, and along RI shores compared to other action alternatives but would not eliminate visual impacts to all historic properties and would not result in fewer visible WTGs and offshore RWF lighting sources than Alternatives C or F.

- as few as 56 WTGs (up to 44% less than the maximum of 100 WTG under the Proposed Action) under Alternative F when combined with any of the action alternatives (C1, C2, or E1) intended to allow for the fulfillment of the existing three PPAs' generation requirement of at least 704 MW. These WTG impacts under Alternative F could potentially be reduced from those of the other action alternatives, where WTG numbers are comparatively less.
- 65 WTGs (35% to 17% less than under the Proposed Action [Alternative B], Alternative D, and Alternative E2). Alternative G could decrease impacts to viewshed resources when compared to the Proposed Action, Alternative D, and Alternative E2 because the number of constructed WTGs and their viewshed would be reduced by 35% for Alternative G as compared to the maximum-case scenario under the Proposed Action and by at least 17% for the minimum case for these alternatives. The 35% reduction under Alternative G is comparable to the amount of reduction as would occur under Alternative C and Alternative E1, based on their WTG numbers; however, WTGs under Alternative G would be differently configured than under other alternatives. Finally, Alternative F would have 13% fewer WTGs than Alternative G, and the potential for an equivalent proportion of reduced visual impact on viewshed resources. However, WTG setback distances changes cannot be quantified until the additional WTGs to be removed are identified under Alternative F.

WTG configurations for Alternative G, BOEM's Preferred Action, would effectively reduce the proximity of WTGs to NHLs at Block Island and Newport, RI. With the combination of reduced WTG numbers and farther setbacks from shorelands, Alternative G would be equally or more effective in reducing visual impacts from the nearest potential WTGs to viewshed resources at Martha's Vineyard, on Block Island, and along Rhode Island shores, as at Newport, compared to other action alternatives, except potentially Alternative E1 and Alternative F. Similar to Alternative E1, Alternative G is generally more effective at increasing setbacks from NHLs at Newport and Block Island than other alternatives, even though Alternative G would not eliminate visual impacts to all viewshed resources and would not result in fewer visible WTGs and offshore RWF lighting sources than Alternative C, E1, or F.

In relation to the five adversely affected NHLs, at Block Island and Newport, Rhode Island, Alternative G would reduce the field of view in which WTGs would be seen in a line across the horizon. Under Alternative G, Southeast Lighthouse NHL would have comparatively the narrowest visible extent of WTGs across the horizon, within a 24 to 26 degree field of view, as compared to a 29 degree field of view of WTGs under Alternative E, a 33 to 38 degree field of view of WTGs under Alternative D, and the broadest 38 degree field of view for the project under Alternative C and under the Proposed Action (EDR 2023). NHLs in the Newport area would have proportionately the fewest WTGs (a maximum of 65) in combination with a narrowed field of view (37 to 41 degrees) for WTGs visible across the horizon; although, the reduction is not as much as for the field of view from Block Island (EDR 2023). Only Alternative D2 would have a narrower line of turbines visible from those NHLs at Newport, within a 35 to 37 degree field of view (EDR 2023); however, Alternative D would have a cluster of up to 92 WTGs on the horizon, proportionately 42% more than Alternative G.

Compared to the Proposed Action, Alternative G setbacks for RWF WTGs would increase the distances to viewshed resources at Aquinnah by a minimum of approximately 1.25 miles and at Newport and mainland Rhode Island by 1.15 mile and up to 3.5 miles, dependent on the WTG configuration used. In relation to Block Island, Alternative G would reduce the number of closest WTGs and remove the line of

WTGs visible on the horizon from Block Island, thereby removing the massing of RWF WTGs southeast and northeast of Block Island in comparison to the Proposed Action. Compared to Alternative C, Alternative G would continue to have WTGs in approximately the same proximity to Martha's Vineyard, although Alternative G would have fewer WTGs than Alternative C. Alternative G would have approximately the same changes as Alternative C in relation to Block Island, Newport, and mainland Rhode Island (in comparison to the Proposed Action). Alternative G, in comparison to Alternative D, would have increased setbacks from Martha's Vineyard, Newport, and mainland Rhode Island. However, in comparison to Alternative D3, Alternative G would have approximately the same increased setback distances from Block Island, albeit with a different WTG configuration under Alternative G and Alternative D3. Alternative E1 would begin placing WTGs farther from Martha's Vineyard and from Newport than Alternative G, with Alternative G WTG placement beginning approximately 2 miles nearer from Martha's Vineyard and approximately 1.15 to 3.5 miles from Newport than the nearest Alternative E1 WTG. Alternative G would not reduce WTG proximity to Block Island as much as Alternative E2 WTG (where WTGs would begin at the same distance as Alternative G, but then begin receding more greatly to the northwest, to distances of 1.15 to approximately 5.5 miles farther away). The distances by which Alternative F would increase WTG setbacks from shore in relation to the other action alternatives cannot be quantified until the additional WTGs to be removed are identified. As described, those action alternatives with the fewest WTGs and the greatest distances of setback would have the least degree of potential visual impacts on viewshed resources. Although the level of impact would be reduced, the layout modification and construction activities proposed under Alternatives C through F would still include the same historic properties adversely affected under the Proposed Action and the same potential for impacts to these historic properties. Portions of all RWF WTGs would potentially be visible from nearly all the 101 historic properties adversely affected under the action alternatives. All action alternatives, regardless of planned WTG numbers, would have the WTG visibility reduced somewhat due to intervening land areas and with setback distance from the coastline. As described, those action alternatives with the fewest WTGs and the greatest distances of setback would have the least degree of potential visual adverse effects on historic properties. Under Alternatives C through F, the construction and installation of offshore Project components with lighting would have adverse effects to historic properties, similar to those of the Proposed Action. O&M and decommissioning of offshore Project components with lighting would have effects to historic properties under Alternatives C through F, similar to those of the Proposed Action. Visual effects from offshore Project components' lighting would be removed upon completion of decommissioning.

To the potential 955 WTGs modeled in a maximum-case scenario for other future offshore wind activities (EDR 2021b), Alternatives C through F would add visual effects from offshore WTG structure visibility and lighting, including from navigational and aviation hazard lighting systems. The same 101 historic properties would continue to be adversely affected by offshore structure lighting visibility in the visual APE under Alternatives C through F as under the Proposed Action. The cumulative visual effects of offshore structures and lighting on historic properties in the visual APE associated with Alternatives C through F when combined with past, present, and reasonably foreseeable activities would be long term and adverse, until decommissioning of the Project. However, for Alternatives E1 and G in particular, the visual proximity for effects from offshore Project elements would specifically have increased setbacks from historic properties at Martha's Vineyard, MA, and the nearest shores of RI (including NHLs at Newport and Block Island).

5.1.2.2 Minimization of Physical Effects to ASLF from Seafloor Disturbance

Alternatives C through F would involve the same types or numbers of submerged historic properties on the seafloor at the RWF and RWEC offshore development areas as under the Proposed Action. However, these alternatives could decrease the risk of disturbance and impacts to historic properties because the number of constructed WTGs could be reduced and associated cable trenching could also decrease, resulting in greater Project flexibility for avoiding these historic properties. Therefore, RWEC and RWF WTG and IAC construction, operation, maintenance, decommissioning, and associated vessel anchoring would result in less seafloor disturbance than is anticipated for the Proposed Action (see BOEM 2022a:Table 3.10-7).

Potential construction disturbance for WTG and OSS locations is expected to reduce from the maximum scenario of 734.4 acres of Alternative B to 475.2-482.4 acres under Alternative C, 576-684 acres under Alternative D, 475.2-597.6 acres under Alternative D, 482.4 acres under Alternative G, and as little as 417.6 acres under Alternative F (BOEM 2022a:Table E4-1). The IAC length and acreage of disturbance between WTG would reduce comparatively. Potential anchorage disturbance is expected to reduce from the 3,178 acres of Alternative B to 2,062-2,093 acres under Alternative C, 2,496-2,961 acres under Alternative D, 2,062 or 2,589 acres under Alternative D, and as little as 1,814 acres under Alternative F (BOEM 2022a:Table E4-1).

Compared to the Prosed Action, Alternative C would place WTG locations farther from seven of the 29 historic properties in the marine APE, specifically 2.8 to 3.0 miles farther from ASLF Target-28 and Target-27, respectively, and 0.25 mile to 2.5 miles farther from shipwrecks/possible historic shipwreck Target-02, Target-08, Target-17, Target-18, and Target-19, in order of increasing distance. Distances to other submerged historic properties in the marine APE would not change under Alternative C.

Alternative D would decrease the risk of disturbance and impacts at one potential shipwreck (Target 04) because the nearest WTG would be sited approximately 3.5 miles more distant from that shipwreck. Impacts would remain the same as the Proposed Action, however, if Alternative D retains WTG proximity to that shipwreck. As a result, Alternative D would not have the potential to reduce potential for adverse effects at submerged historic properties as much as Alternative C. Alternative D would also maintain similar configurations to the Proposed Action at the other 28 ASLFs and shipwrecks/possible historic shipwrecks in the marine APE.

Compared to the Proposed Action, the 64 WTG configuration of Alternative E1 would place WTG locations farther from seven of the 32 ASLFs and shipwrecks/possible historic shipwrecks in the marine APE. These seven consist of two ASLFs (Target-24 and Target-26), three known shipwrecks (Target-01, Target-06, and Target-09), and two possible historic shipwrecks (Target-07 and Target-16). Compared to the Proposed Action, the 81 WTG configuration of Alternative E2 would place WTG locations farther from one ASLF (Target-24) and one possible historic shipwreck (Target-09). Either configuration of Alterative E would have more potential for adverse effects at submerged historic properties than Alternative C but less potential for adverse effects than either Alternative D or the Proposed Action. Although of closer proximity to some submerged cultural properties than these other alternatives, Alternative E would increase the distance of Project WTGs to a range of other submerged historic properties than either Alternative C or Alternative D. Nevertheless, Alternative E would result in similar

effects to the Proposed Action at the 22 to 27 historic properties in the marine APE where its configurations do not provide farther avoidance distances.

Seafloor disturbance associated with Alternative F, which combines alternative WTG reduction options, would result in less seafloor disturbance than is anticipated for the Proposed Action or, potentially, the other action alternatives.

Alternative G would place the WTGs and their connecting IAC farther from two ASLFs and three to eight shipwreck sites than the Proposed Action by placing WTGs 1.9 to 3.7 miles farther away. However, the shift in WTG locations would result in a shift of IAC cabling, which would potentially increase impacts to one possible historic shipwreck (Target 10) and one ASLF (Target 28) by moving or increasing IAC cabling within these two targets (three IAC cables in parallel under Alternative G instead of one under the Proposed Action). Alternative G would also move IAC cabling 0.28 mile closer to an ASLF (Target 25).

Alternatives C through F would use the same RWEC as that of the Proposed Action. These alternatives would result in irreversible adverse effects to historic properties where seafloor disturbance would not be avoidable during construction of the RWEC.

Due to the similarity in Project activities and locations, the impacts of seafloor disturbance on identified ASLFs and shipwrecks/possible historic shipwrecks from Project operations, maintenance, and decommissioning activities associated with Alternatives C through F would be similar to the Proposed Action. Seafloor disturbance, including shipwrecks and ASLF, would be negligible (not adverse) during operations and maintenance, because these activities would be restricted to areas that have been surveyed and found to contain no marine cultural resources or that have previously experienced disturbance during construction. Decommissioning activities would be expected to take place in previously disturbed areas and therefore not adverse to historic properties. Overall, the reduced scale of Alternatives C through F would result in fewer potential effects from seafloor disturbance activities than the Proposed Action.

5.2 Avoidance, Minimization, and Mitigation Measures

The Section 106 process requires BOEM to seek ways to avoid, minimize, or mitigate the adverse effects of the Project that would result from the undertaking. BOEM is approaching this process sequentially, beginning with avoidance. Avoidance of adverse effects is preferred and prioritized. BOEM would then implement minimization to reduce the adverse effect to the extent able. All adverse effects remaining after avoidance and minimization measures would be mitigated. Mitigation measures for historic properties, including NHLs, would be stipulated in the MOA and detailed in the HPTPs attached to the MOA. This includes consideration of monitoring and of emergency situations, such as storms affecting or damaging wind facilities in proximity to ASLFs. These same measures, committed to by Revolution Wind in the MOA and identified in COP Appendix BB – Cultural Resources Avoidance, Minimization, and Mitigation Measures (EDR 2022d), would also be incorporated by BOEM into COP approval.

BOEM remains in consultation with all consulting parties under Section 106 of the NHPA, including Tribal Nations [redacted] State Historic Preservation Offices/Division for Historic Preservation; ACHP; NPS; and other cooperating federal agencies, local governments, historical interest groups, and involved property owners.

BOEM will continue to consult with these parties on this Finding and the resolution of all adverse effects. Consistent with the provisions for NEPA substitution, pursuant to 36 CFR 800.8(c)(4)(i)(A), BOEM will codify the resolution of adverse effects through the MOA for the Project.

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APPENDIX A

Area of Potential Effects Map Figures

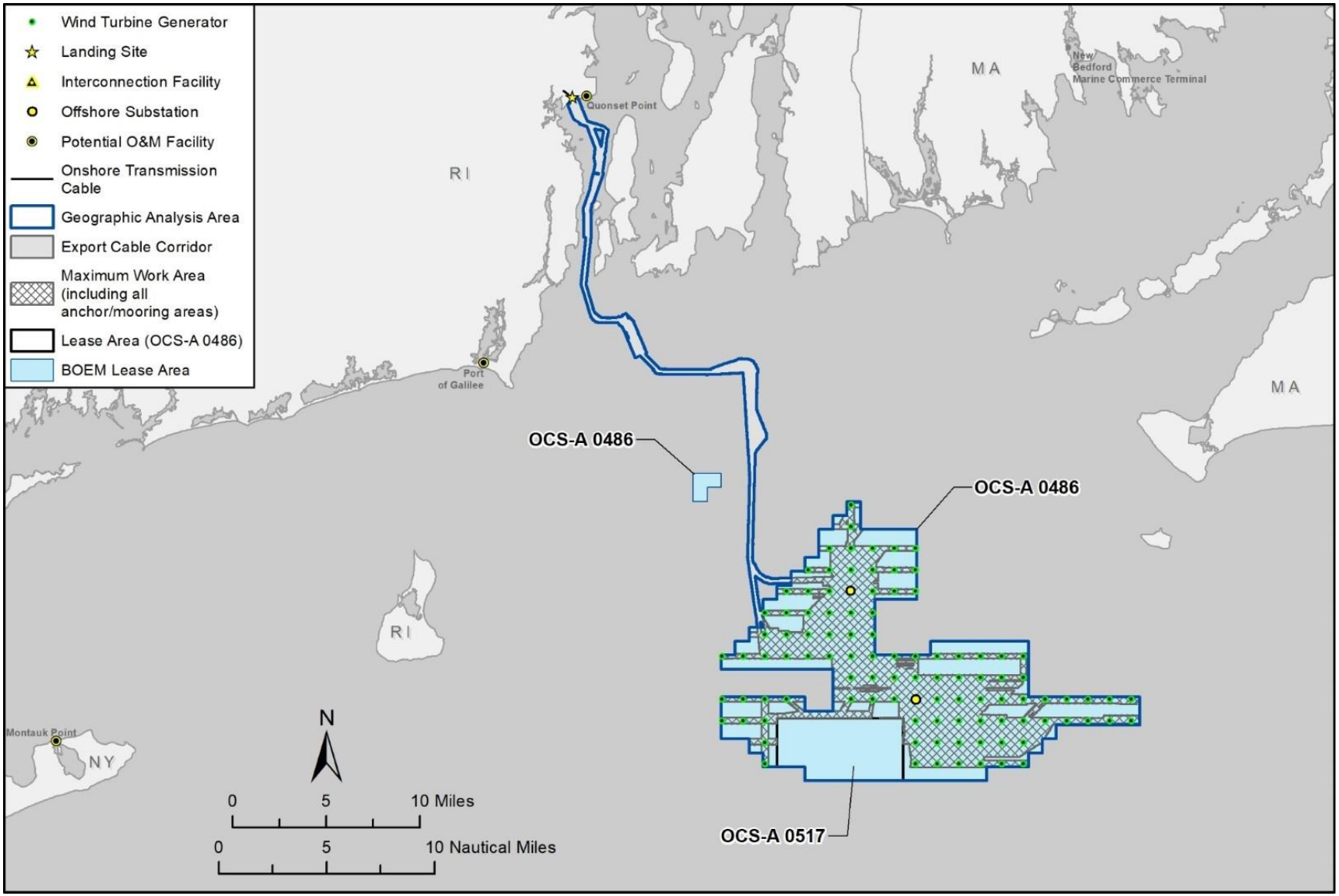


Figure A-1. Revolution Wind construction and operations plan proposed offshore Project elements.

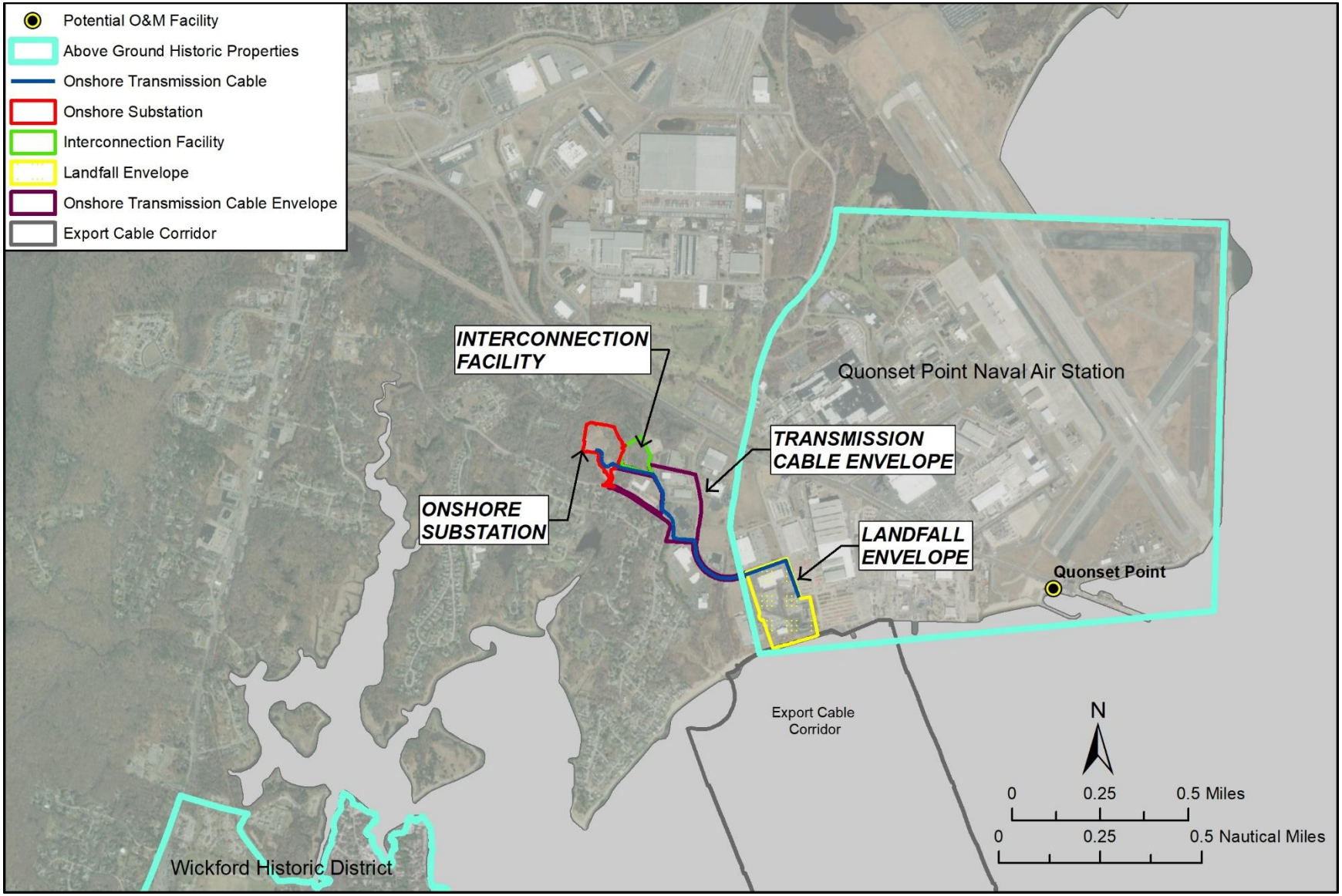


Figure A-2. Revolution Wind construction and operations plan proposed onshore Project elements.

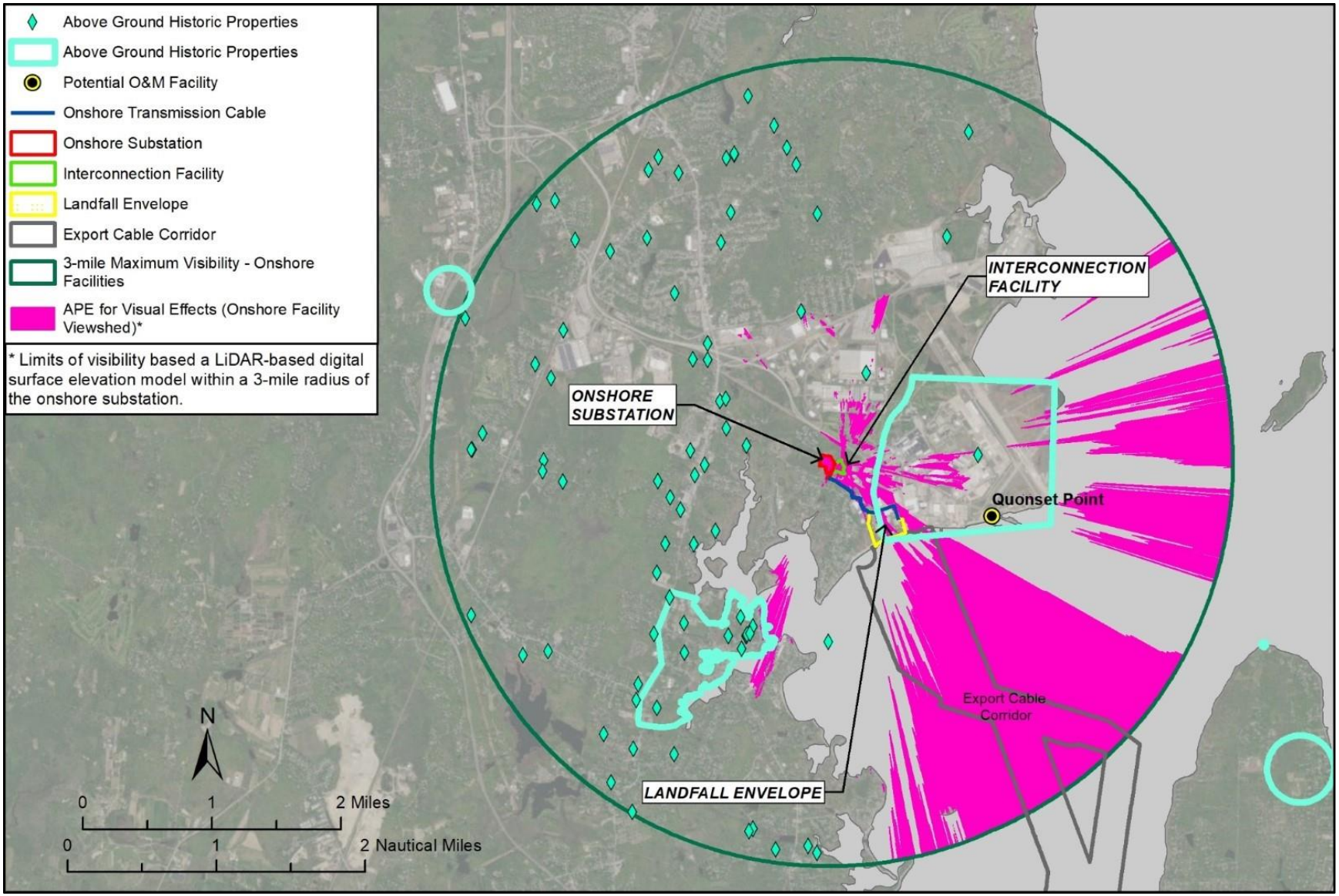


Figure A-3. Visual area of potential effects and visual effects assessment geographic analysis area – onshore.

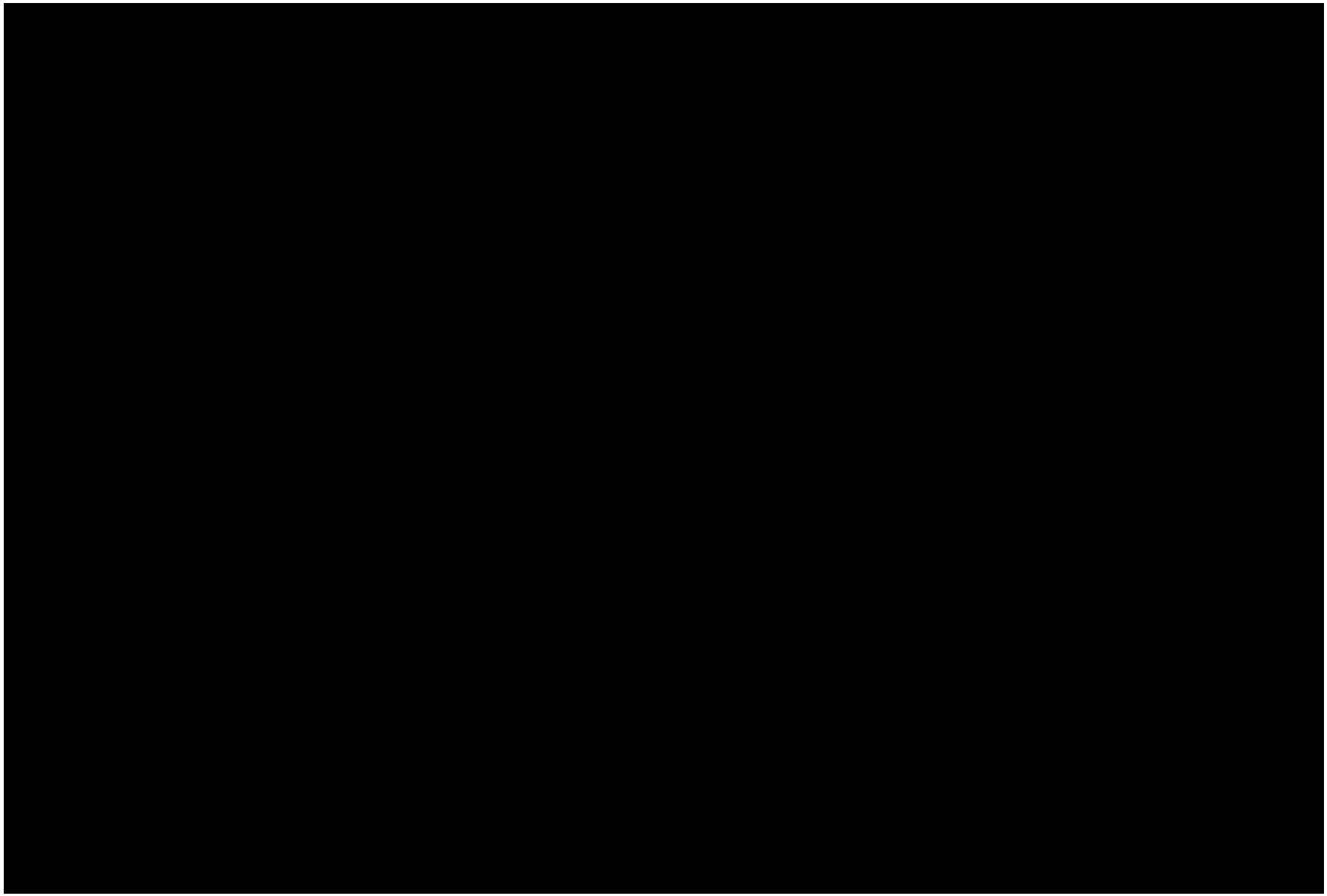


Figure A-4. Visual area of potential effects and visual effects assessment geographic analysis area – offshore.

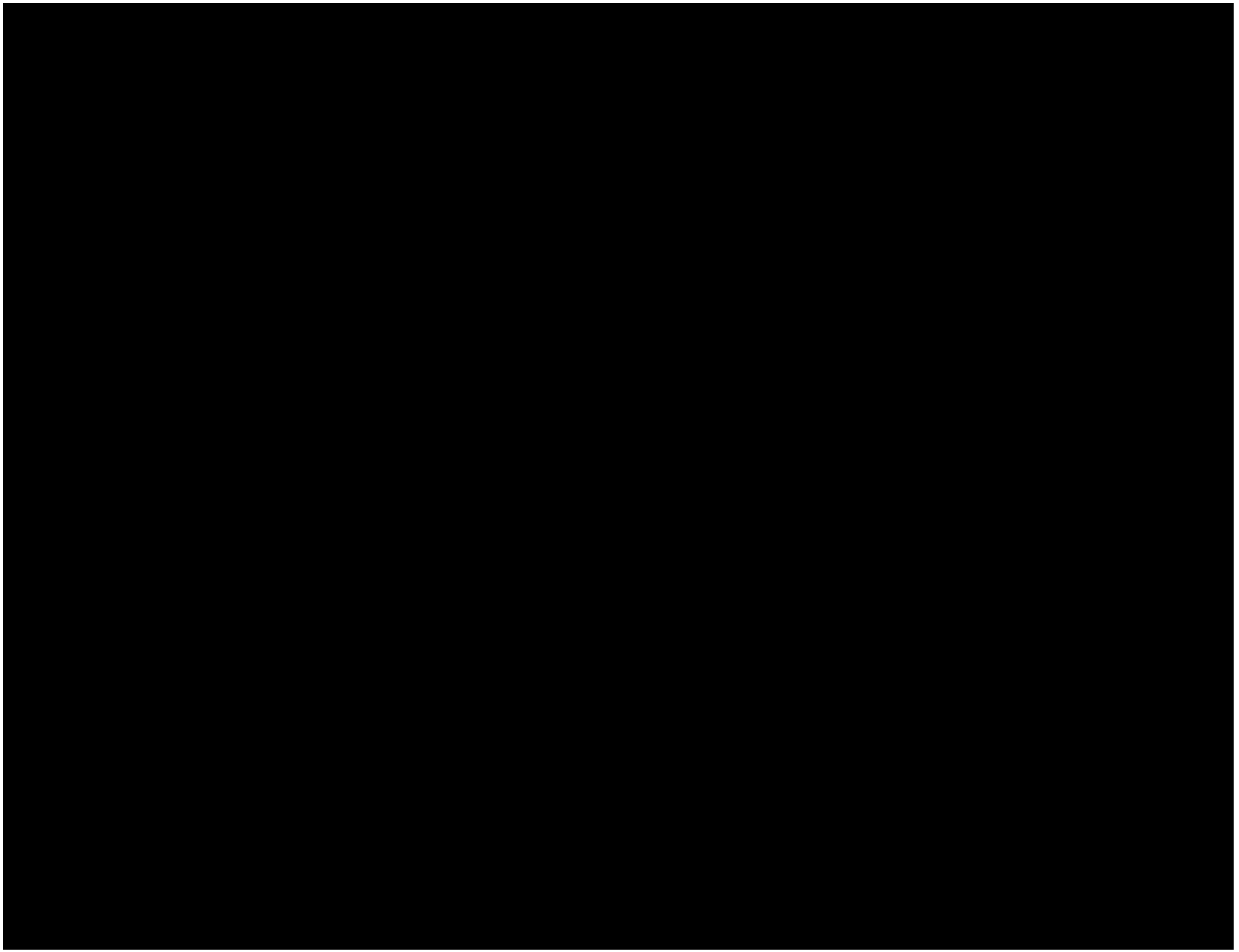
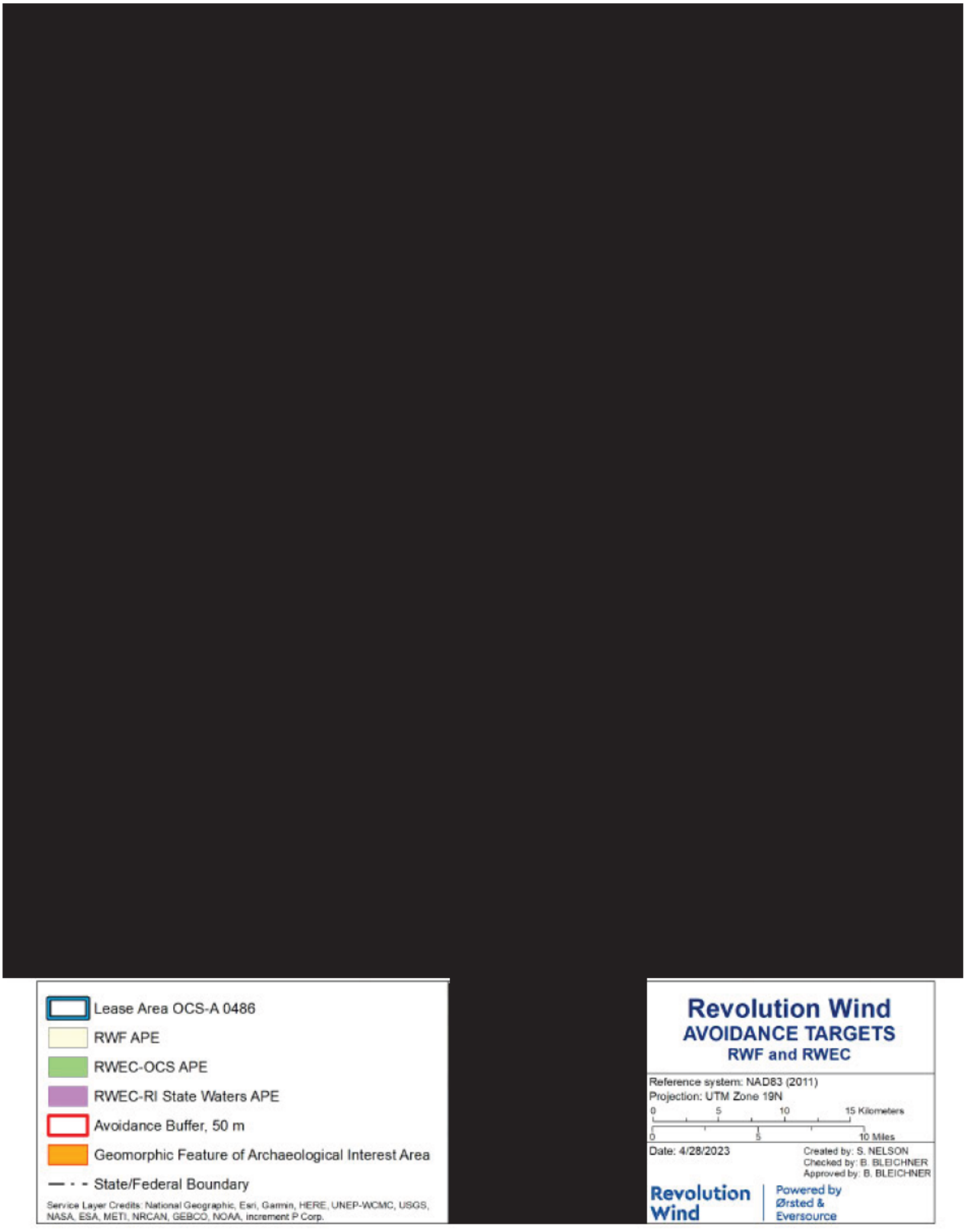


Figure A-5. National historic landmarks in the visual area of potential effects – offshore.

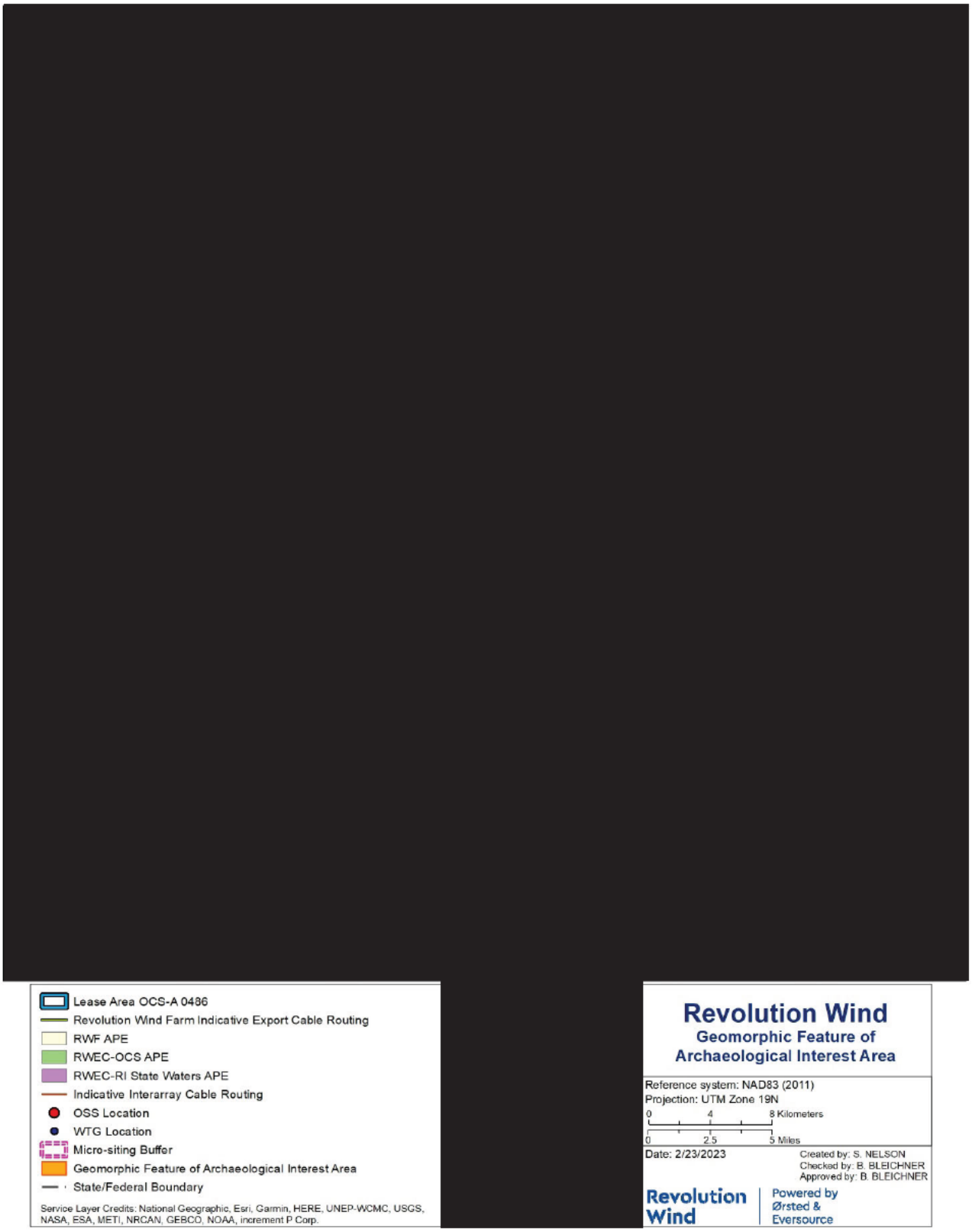
APPENDIX B

Map Figures of Historic Properties in Relation to the Area of Potential Effects

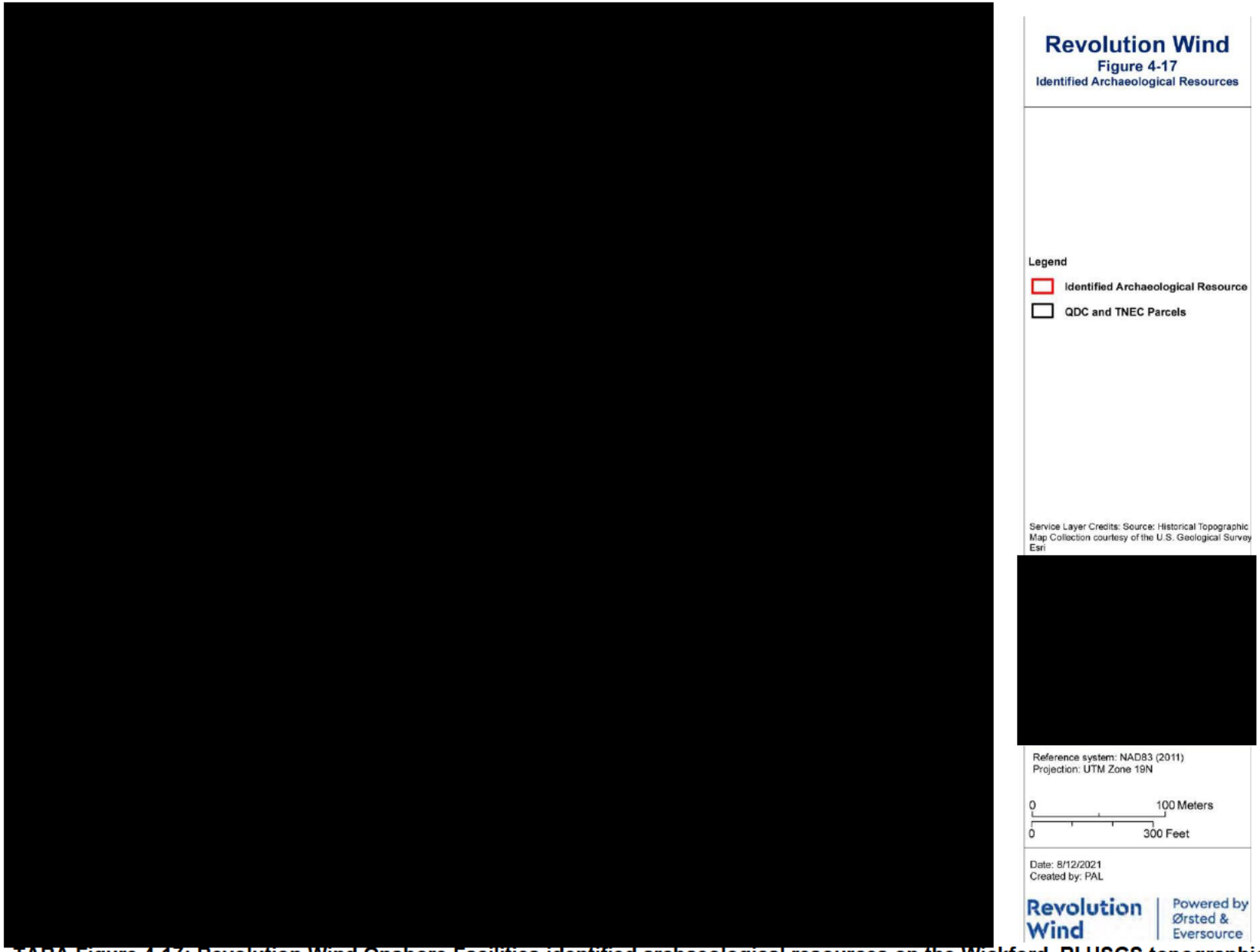
(detached – contains material that meets the criteria for confidentiality under Section 304 of the NHPA)



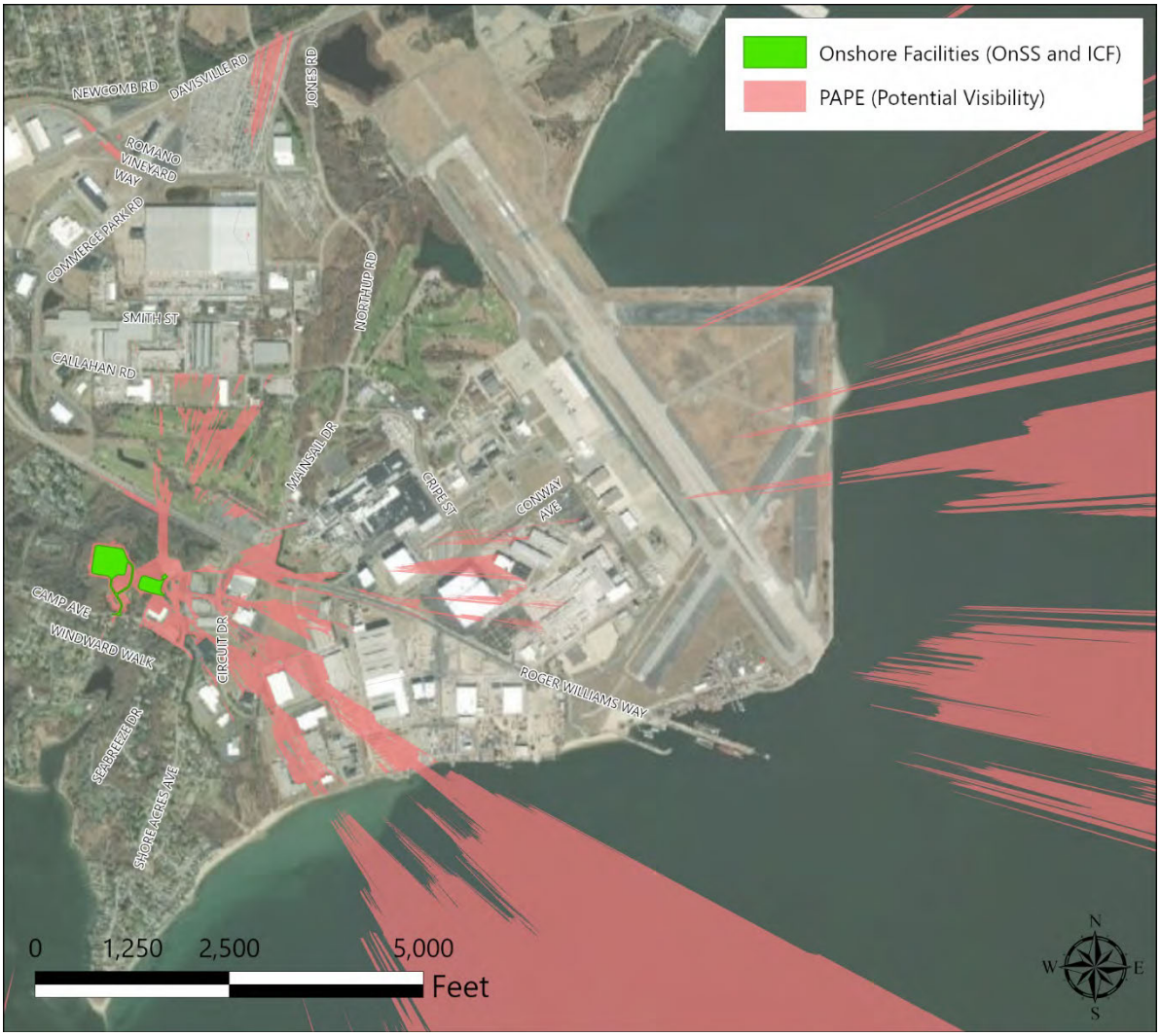
MARA Figure 4-1. Potential Submerged Cultural Resources in RWF and RWEC. (SEARCH 2023:111) [Focusing on potential shipwrecks; see next page for all ASLF]



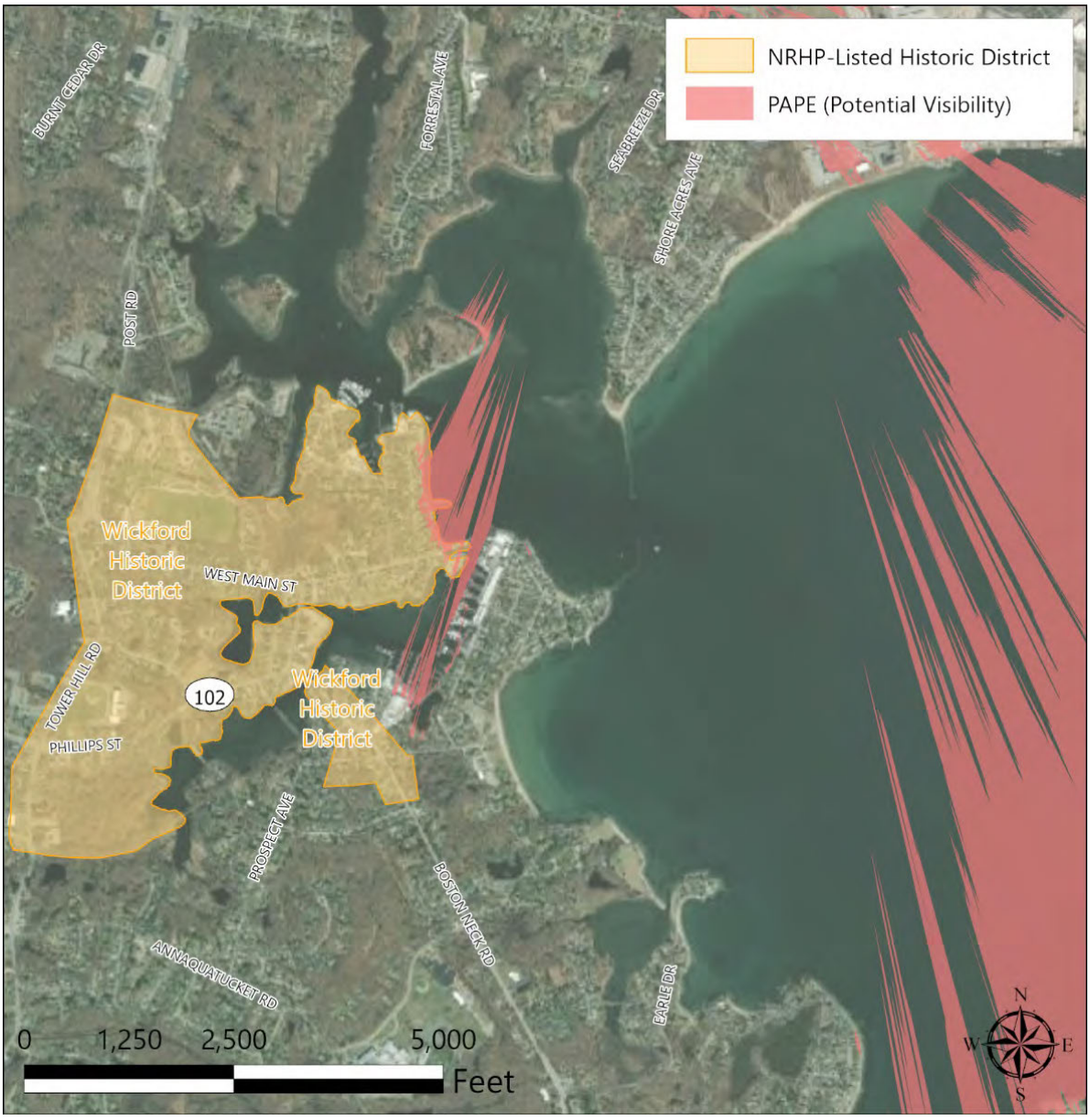
MARA Figure 6-1. Geomorphic Features of Archaeological Interest Areas. (SEARCH 2023:203)



TARA Figure 4-17: Revolution Wind Onshore Facilities identified archaeological resources on the Wickford, RI USGS topographic quadrangle. (Forrest and Waller 2023:4-18)



Onshore HRVEA Figure 2.2-2. Detail of Potential Project Visibility at the Quonset Point Naval Air Station (EDR 2021a:23)



Onshore HRVEA Figure 2.2-3 - Detail of Potential OnSS and ICF Visibility Within the Wickford Historic District (EDR 2021a:24)

J:\19138 Revolution Wind VIA HRVEA\Graphics\Figures\HRVEA\MXD\19138_HRVEA_Figure 3_1-1_Above-Ground Historic Properties_PAPE.mxd

Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

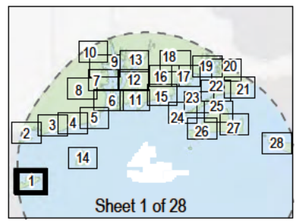
Above-Ground Historic Property

- National Historic Landmark
- NRHP-Listed Property
- NRHP-Eligible Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



Notes: **1.** Basemap: ESRI ArcGIS Online "World Imagery" map service. **2.** This map was generated in ArcMap on July 28, 2022. **3.** This is a color graphic. Reproduction in grayscale may misrepresent the data.

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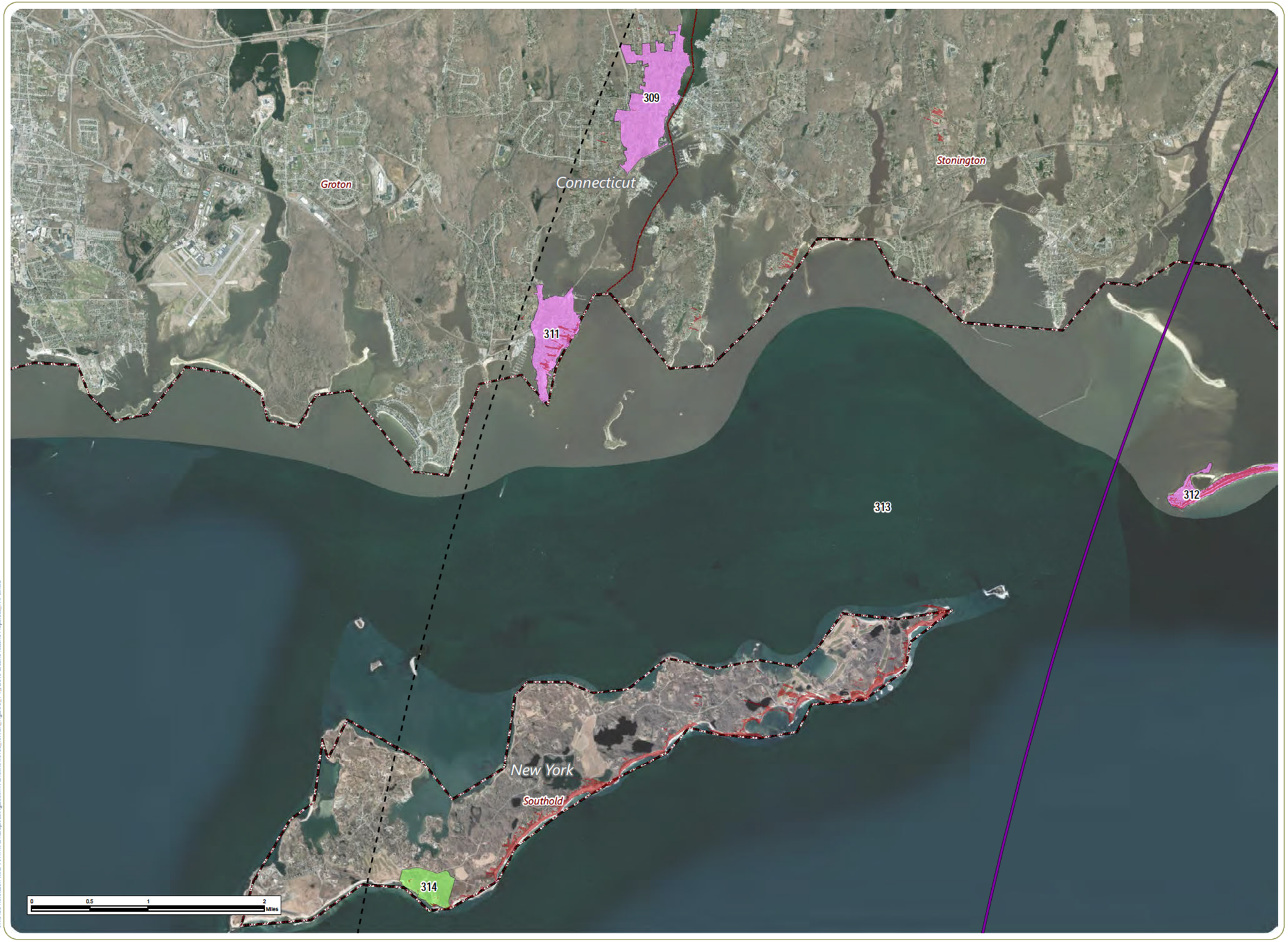
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

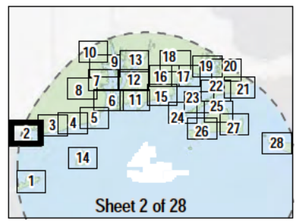
Above-Ground Historic Property

- NRHP-Listed Property
- NRHP-Eligible Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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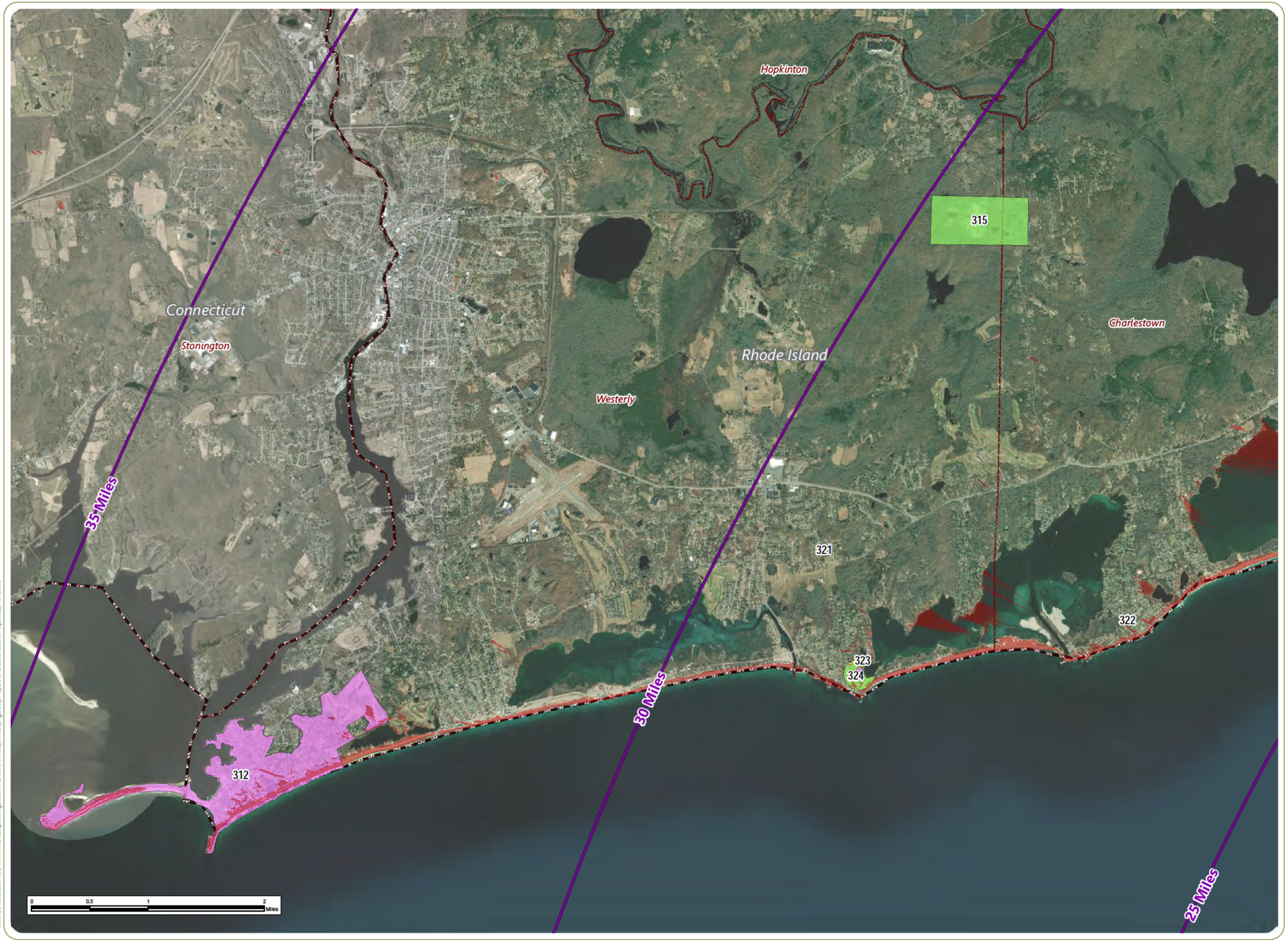


Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

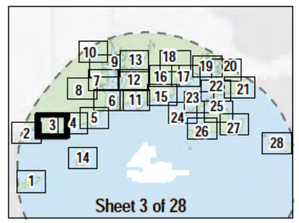
Above-Ground Historic Property

- NRHP-Listed Property
- NRHP-Eligible Property
- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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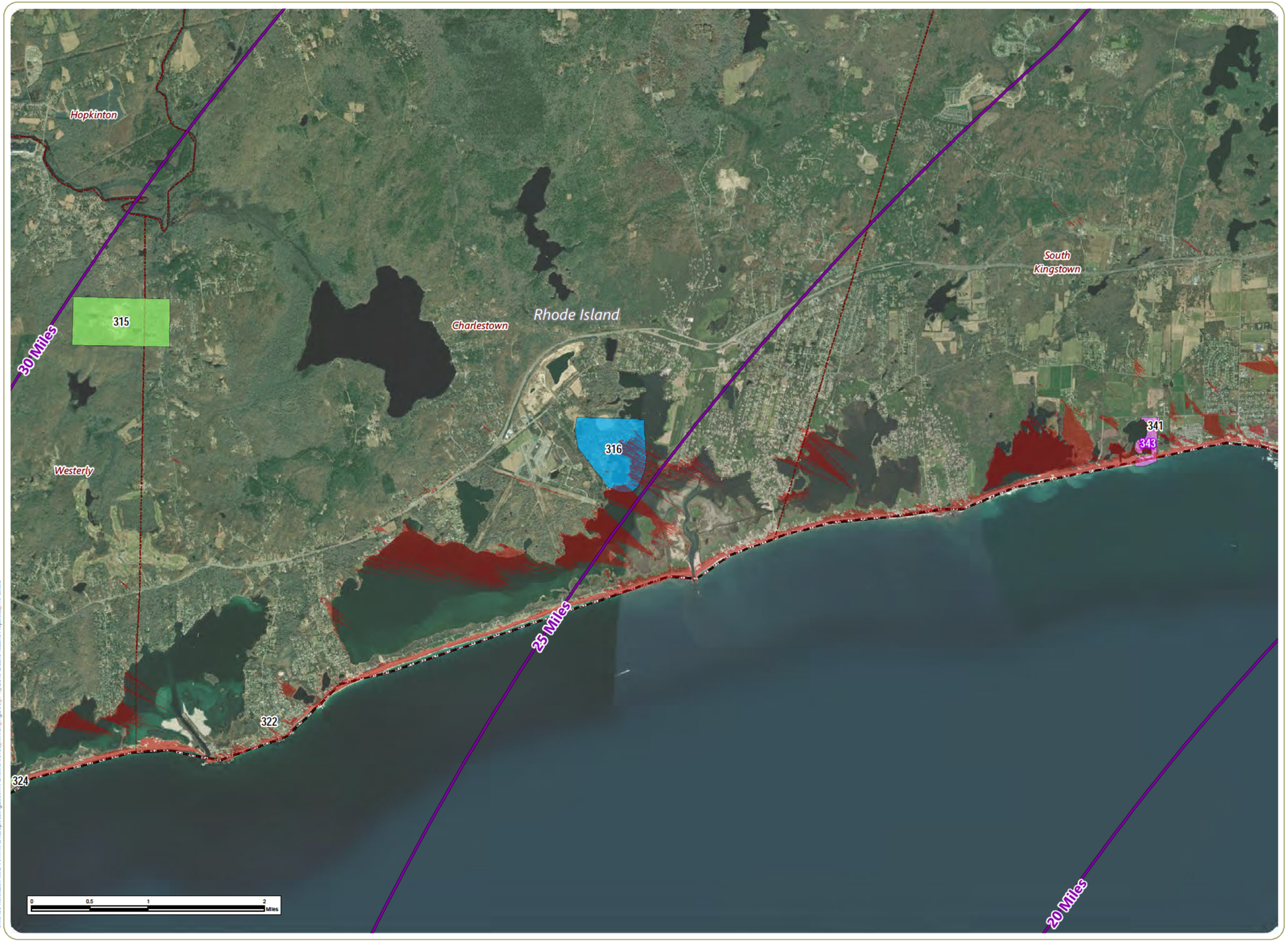
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

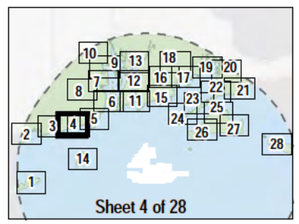
Above-Ground Historic Property

- NRHP-Listed Property
- NRHP-Eligible Property
- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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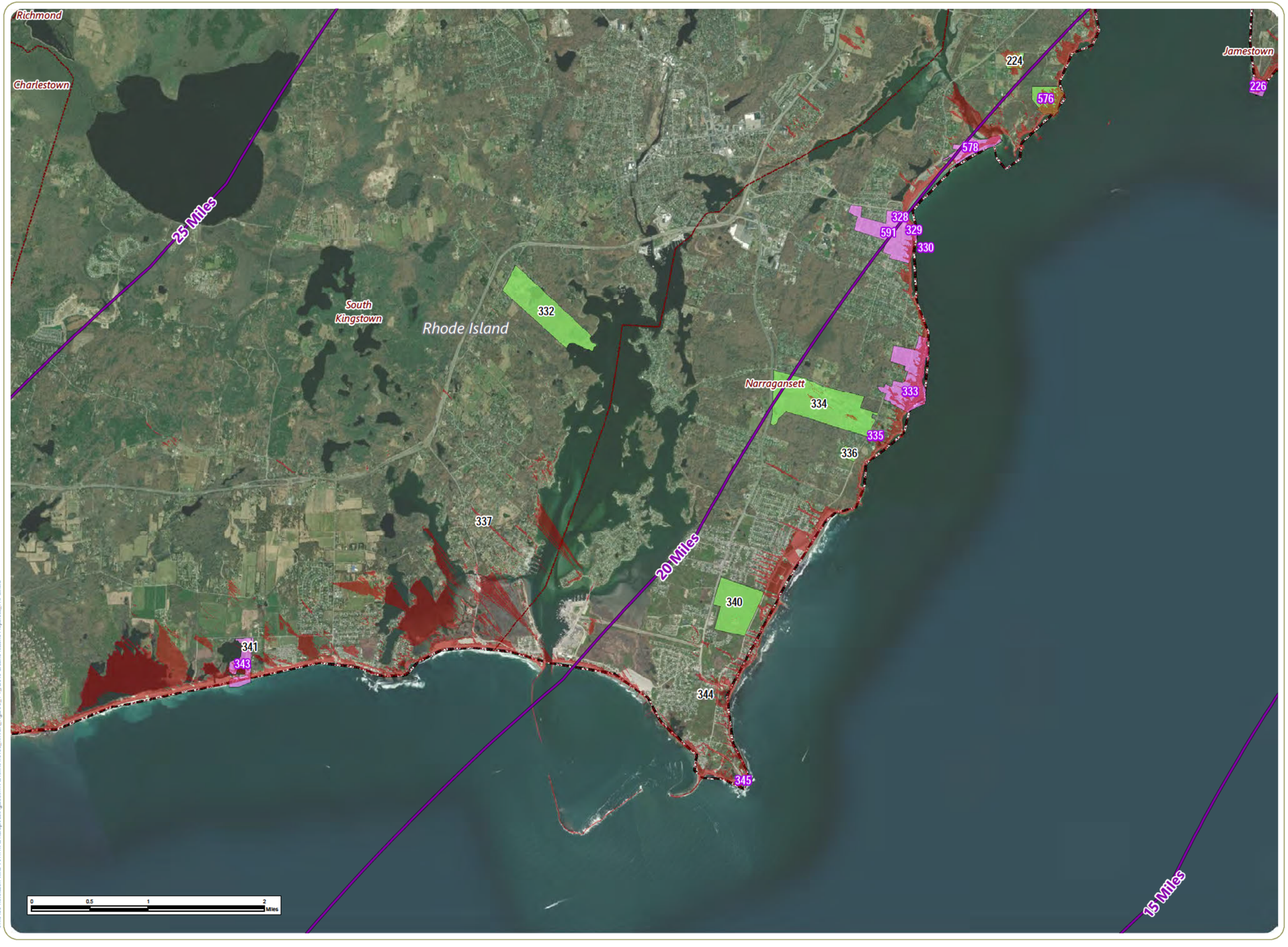
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



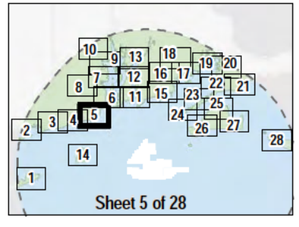
Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area

Above-Ground Historic Property
- NRHP-Listed Property
- NRHP-Eligible Property
- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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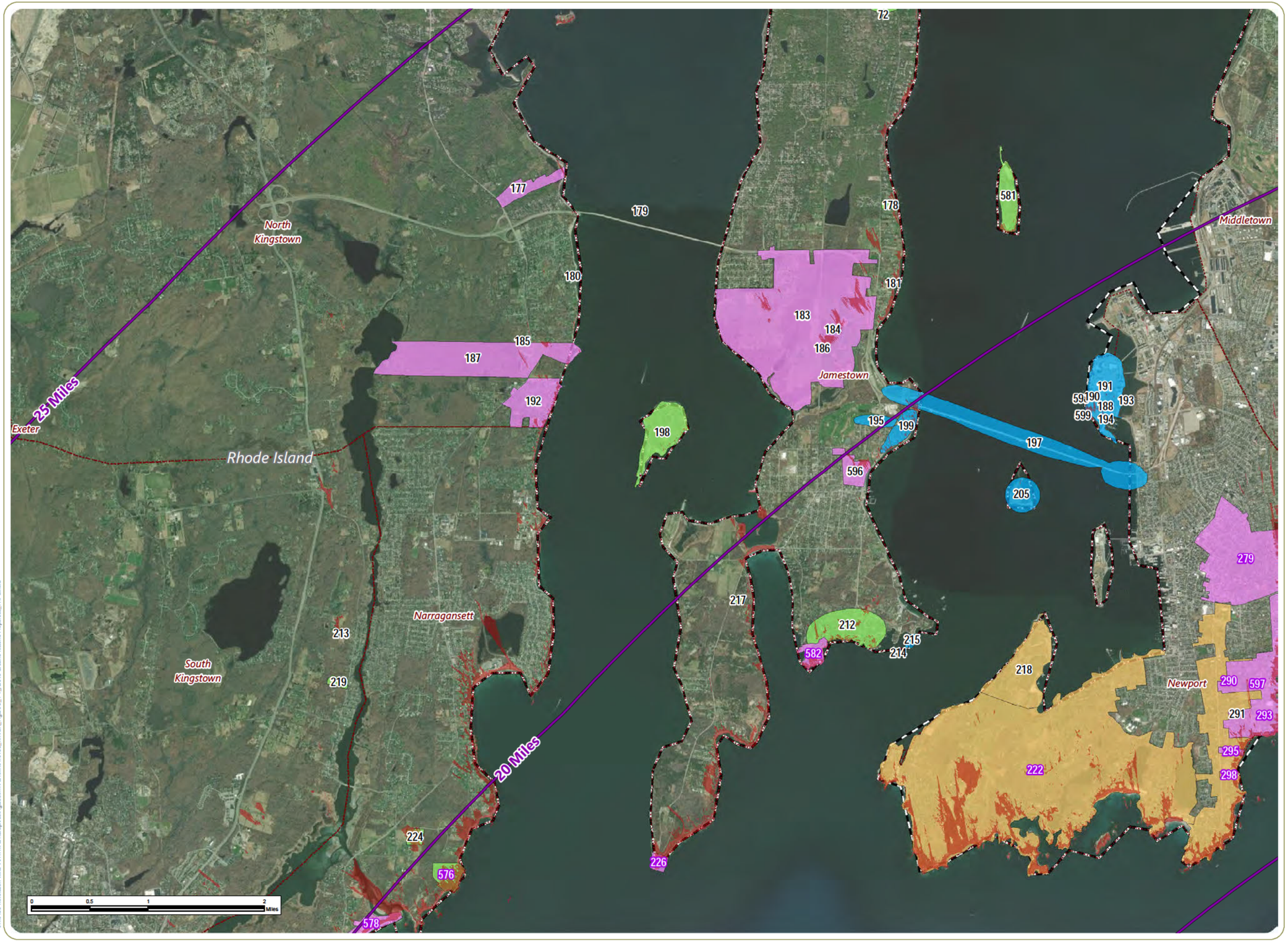
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

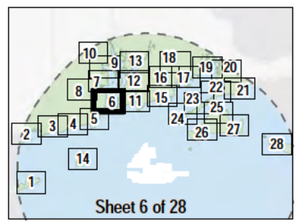


Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
National Historic Landmark
NRHP-Listed Property
NRHP-Eligible Property
Other Potential Historic Property
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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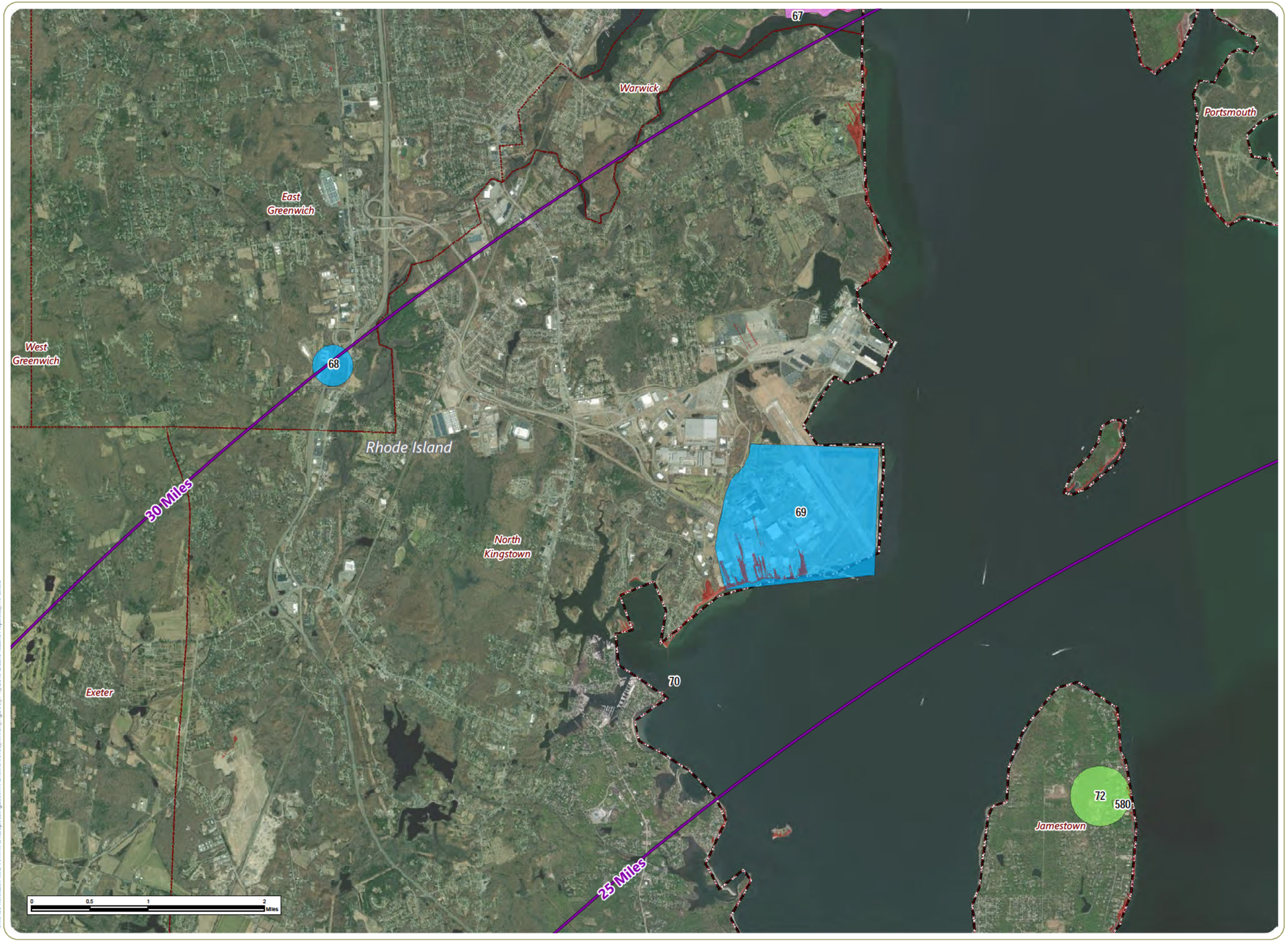
Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

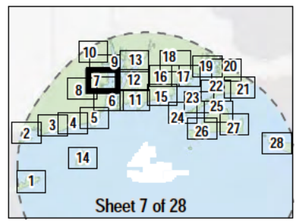


Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
NRHP-Listed Property
NRHP-Eligible Property
Other Potential Historic Property
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

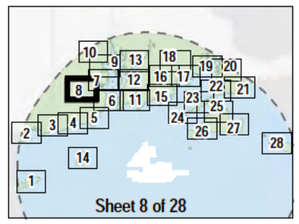
Above-Ground Historic Property

- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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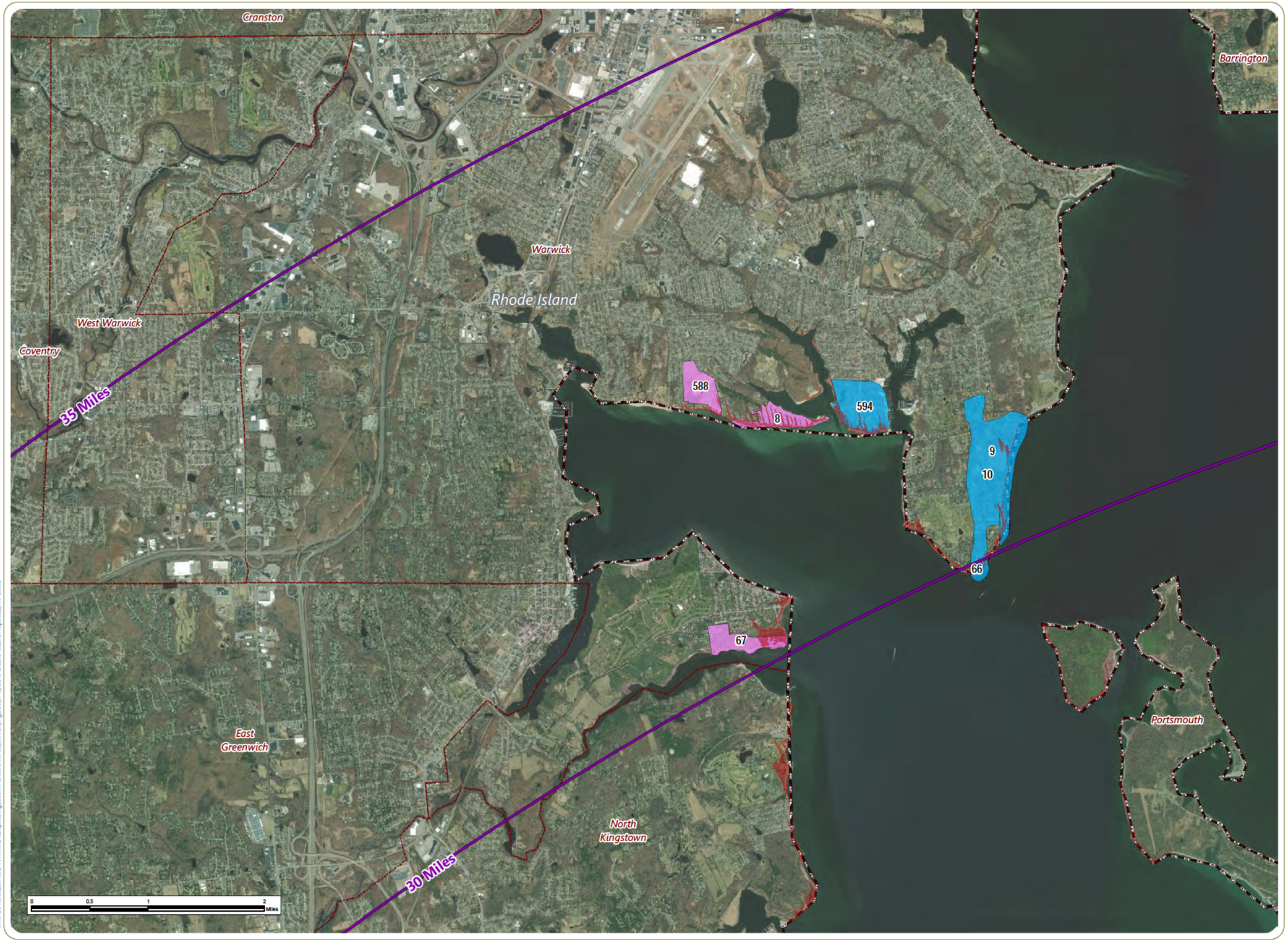
Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

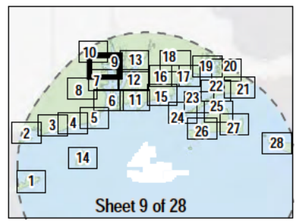
Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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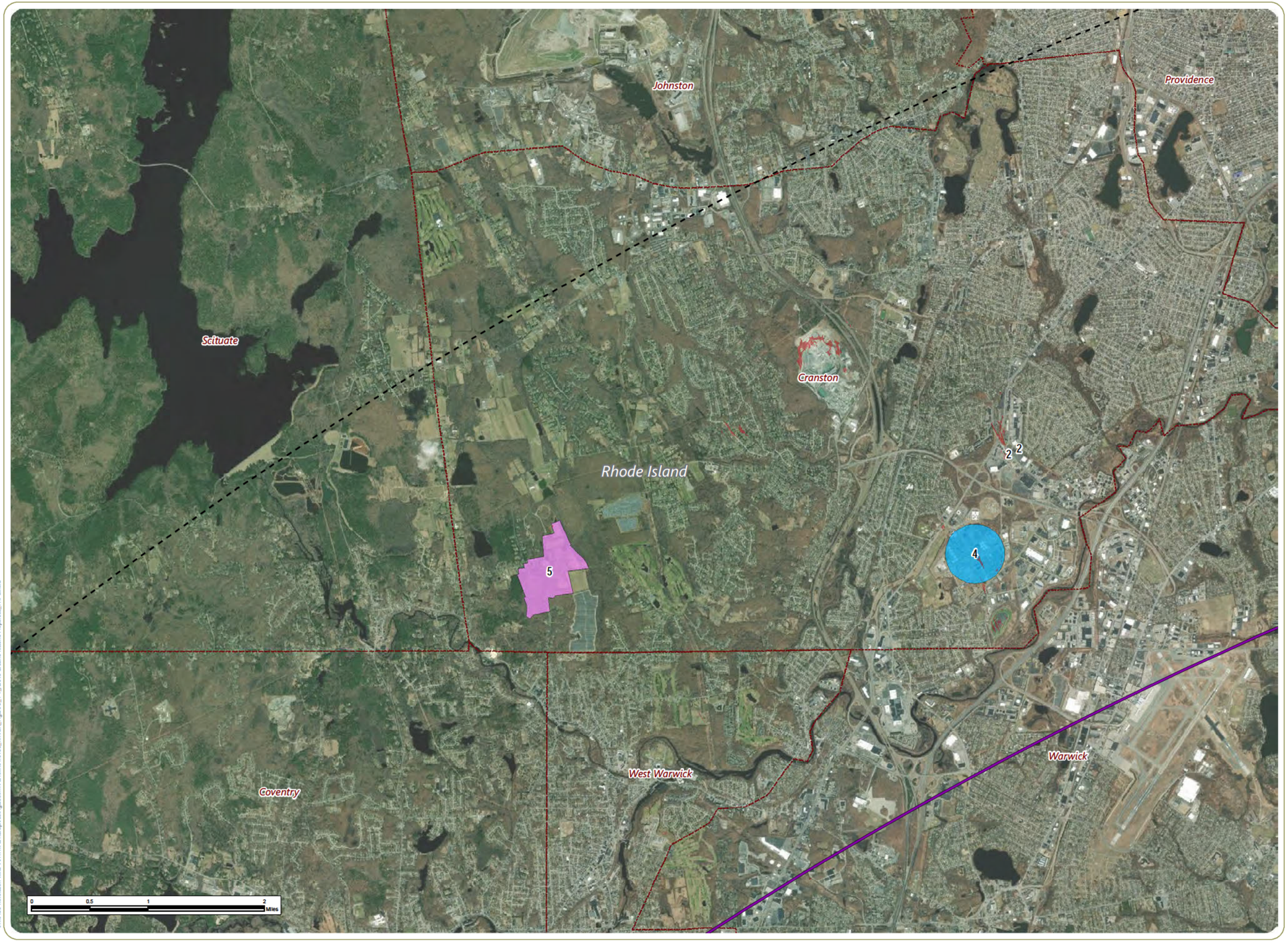
Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

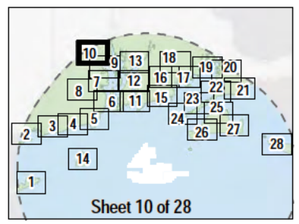
Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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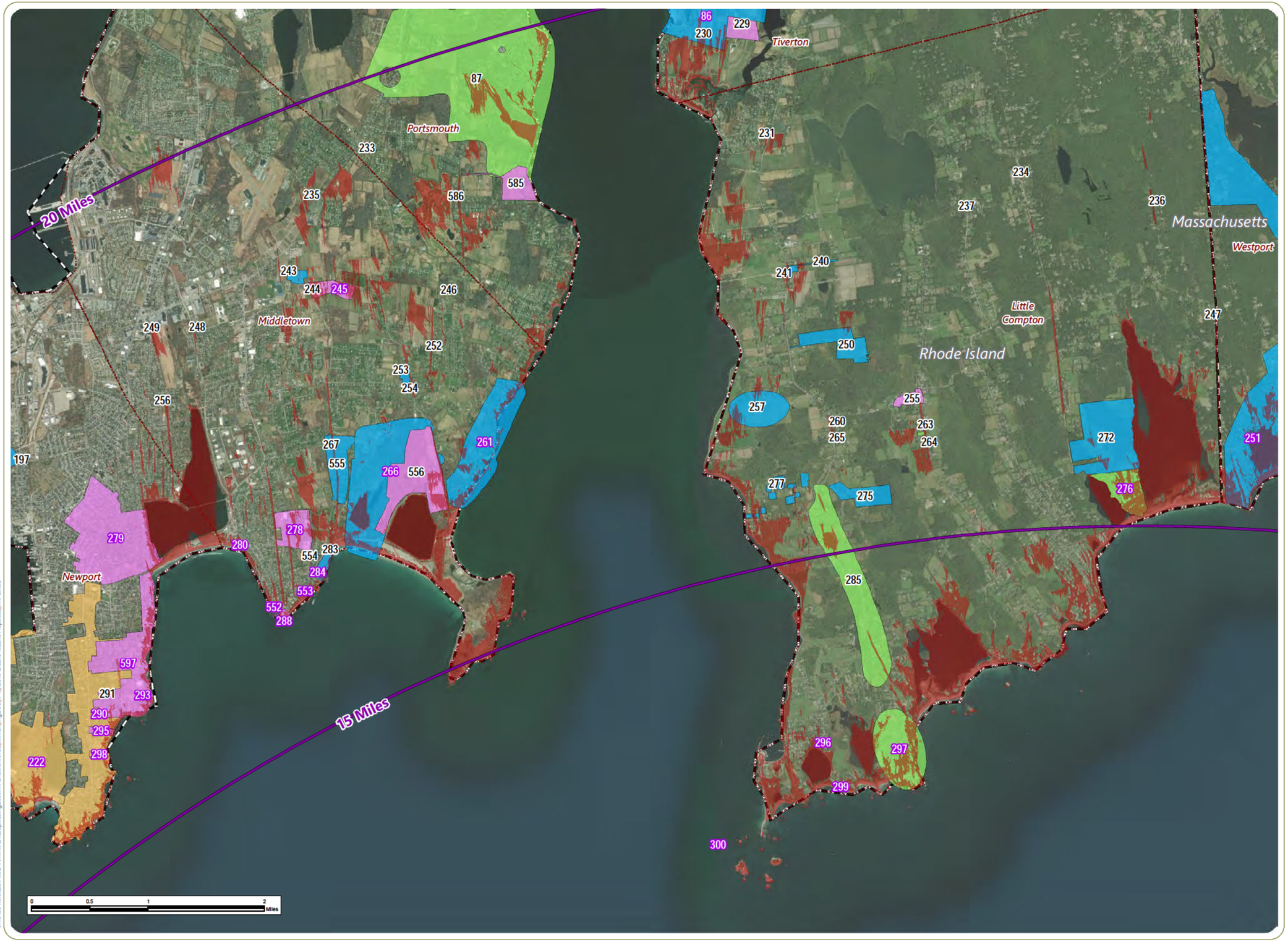
Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

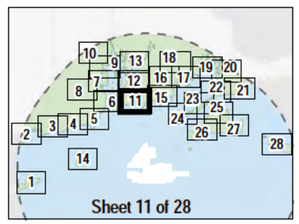
Above-Ground Historic Property

- National Historic Landmark
- NRHP-Listed Property
- NRHP-Eligible Property
- Other Potential Historic Property
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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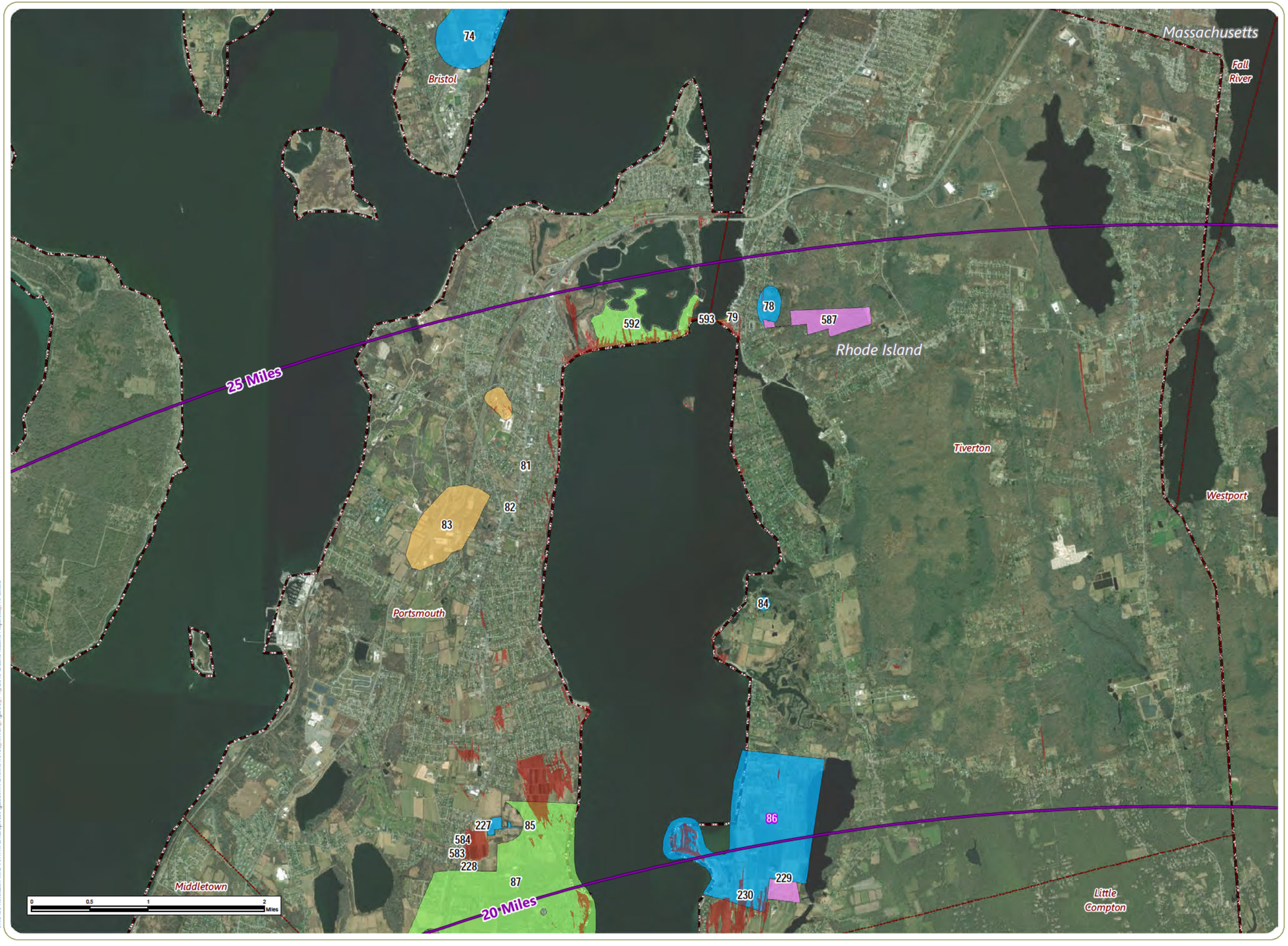
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area

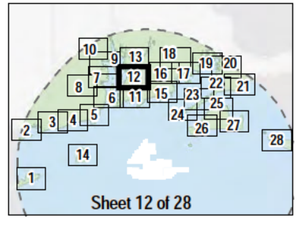
Above-Ground Historic Property
- National Historic Landmark
- NRHP-Listed Property
- NRHP-Eligible Property
- Other Potential Historic Property

Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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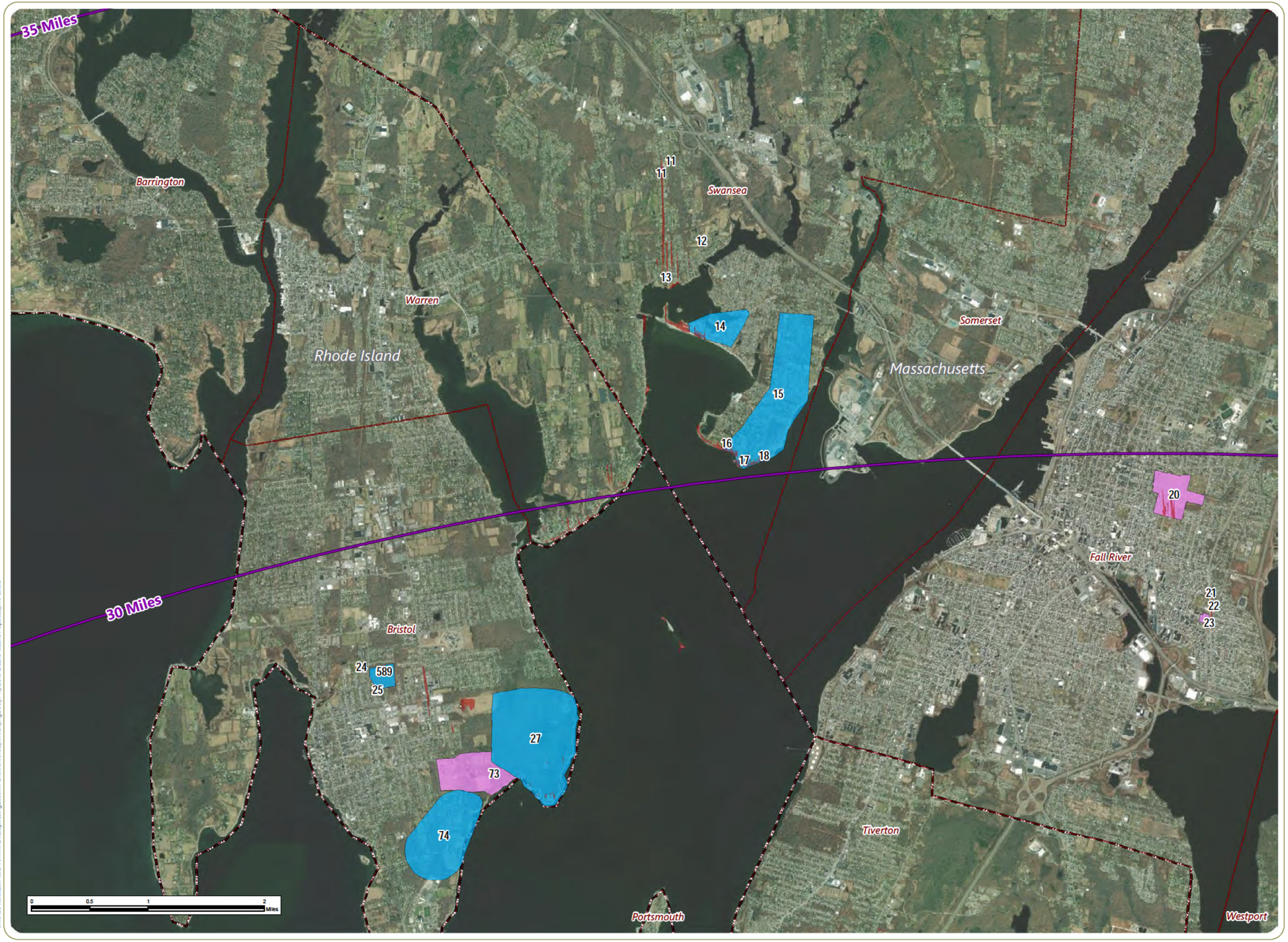
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

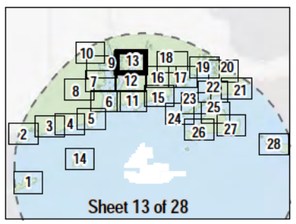


Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
NRHP-Listed Property
Other Potential Historic Property
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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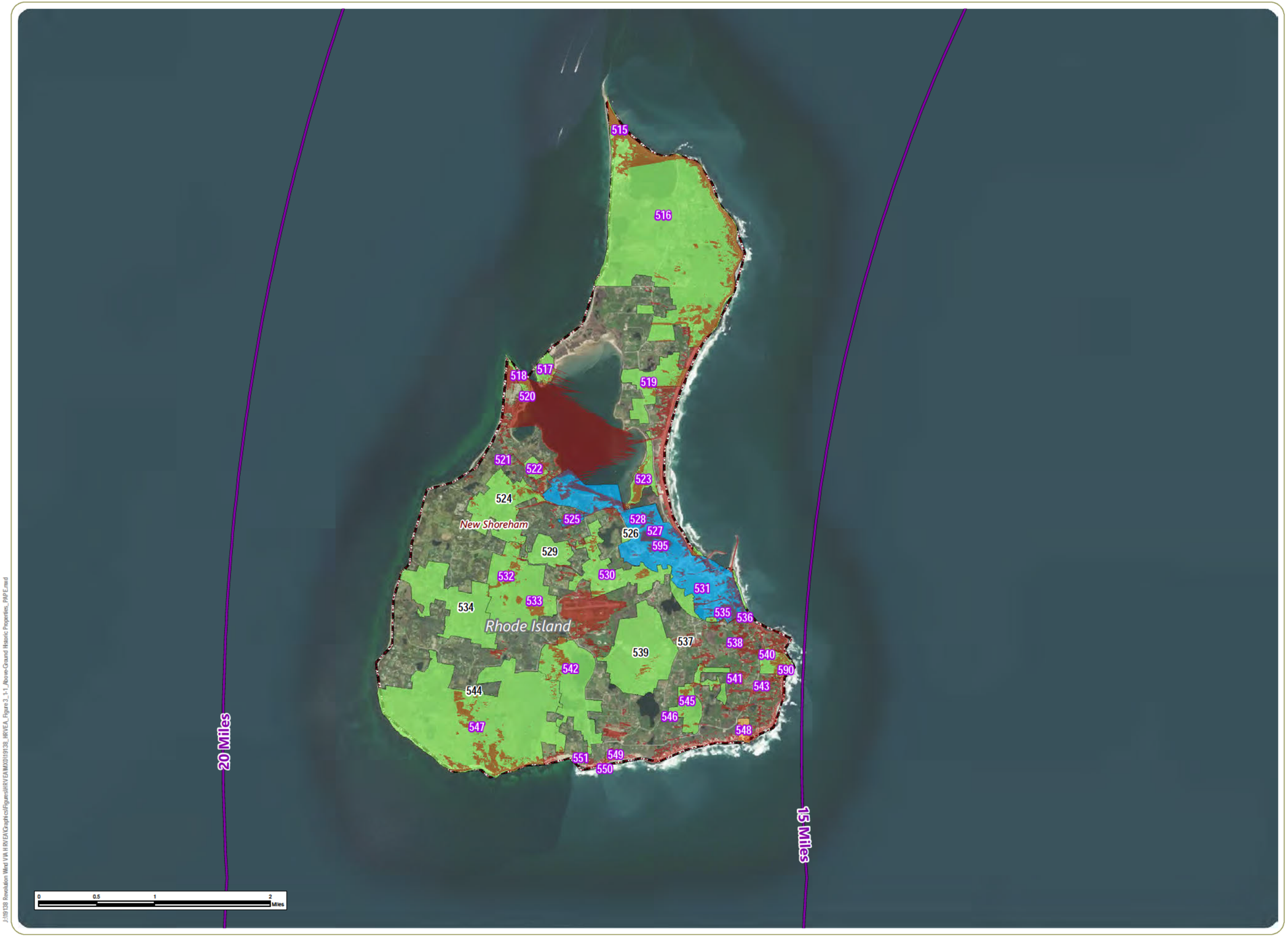

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)

Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- National Historic Landmark
- NRHP-Listed Property
- NRHP-Eligible Property
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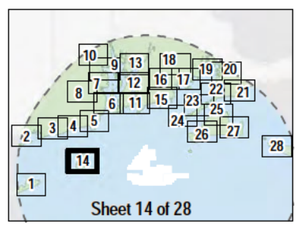
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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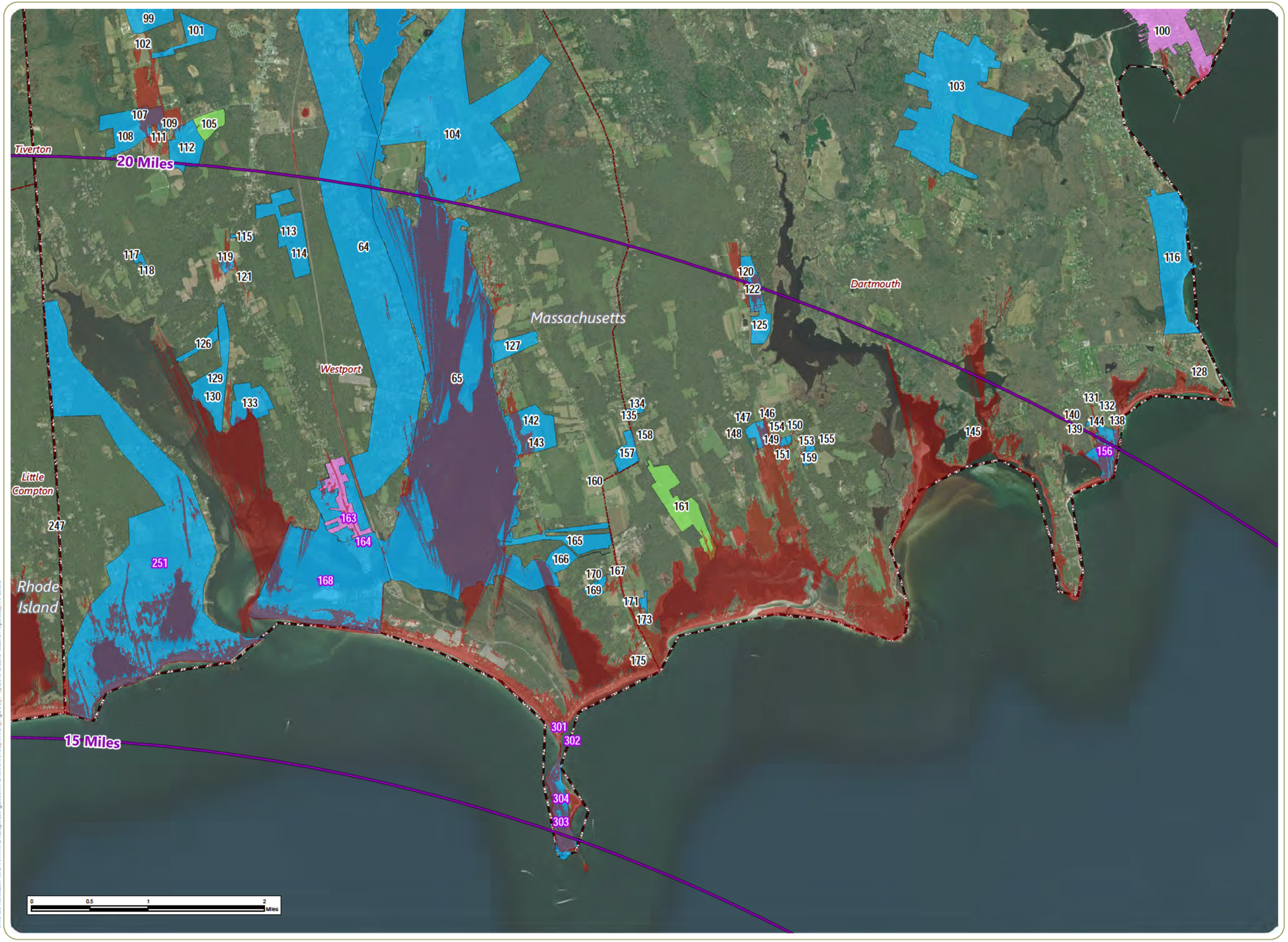
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)

Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- NRHP-Listed Property
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Label Key for Historic Properties

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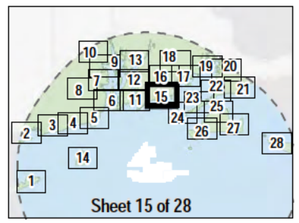

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

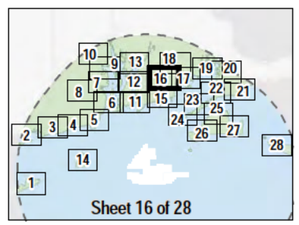
Fall River
30 Miles
Acushnet
New Bedford
Fairhaven
Massachusetts
Dartmouth
Westport
25 Miles

Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
National Historic Landmark
NRHP-Listed Property
NRHP-Eligible Property
Other Potential Historic Property
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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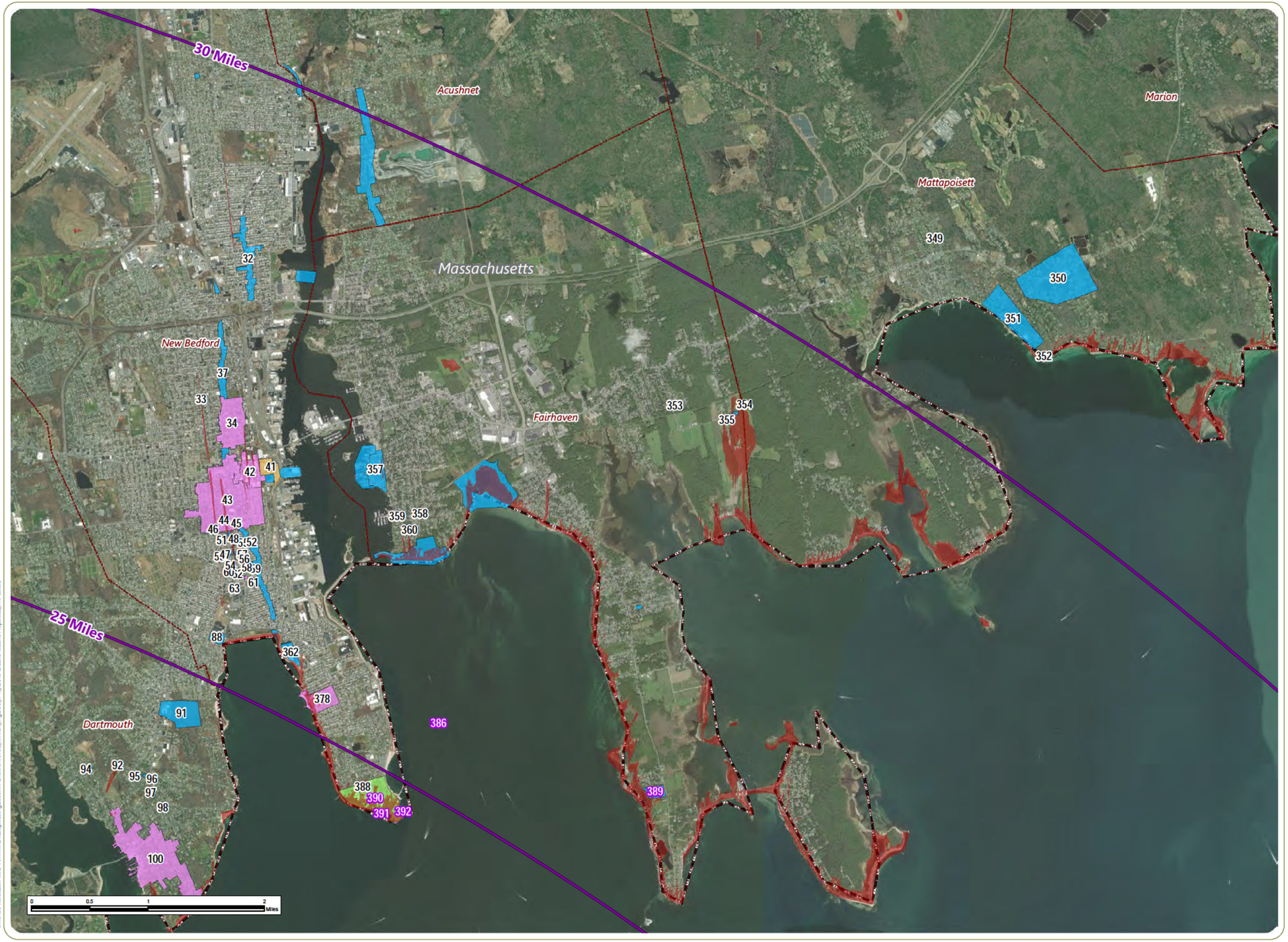
Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects



Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
National Historic Landmark
NRHP-Listed Property
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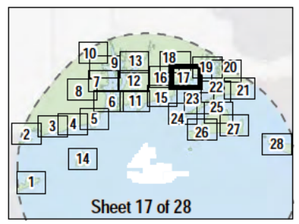
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



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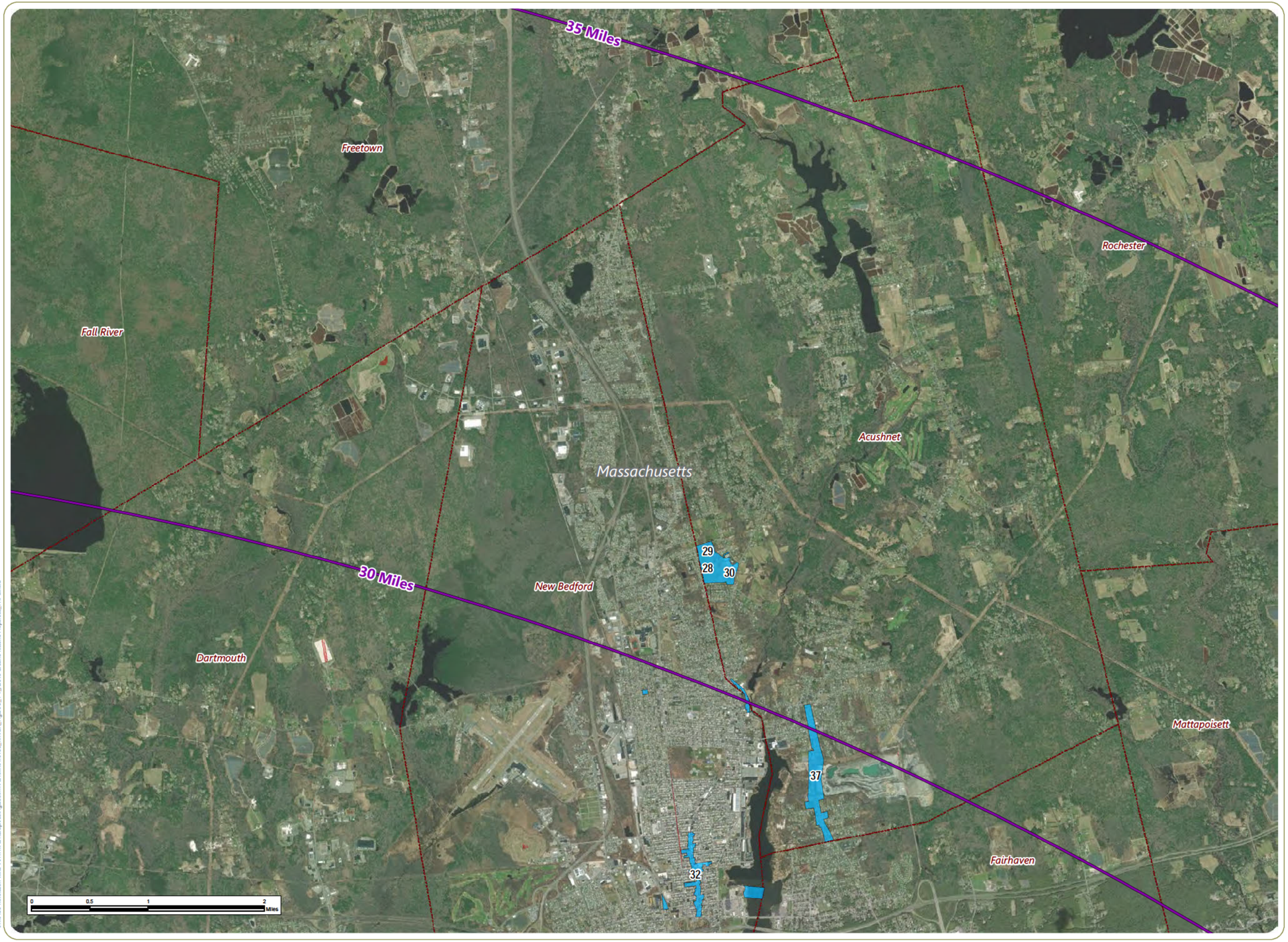
Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

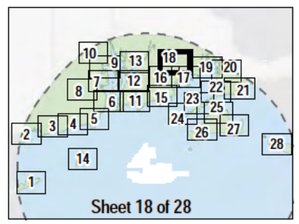


Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
Other Potential Historic Property
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

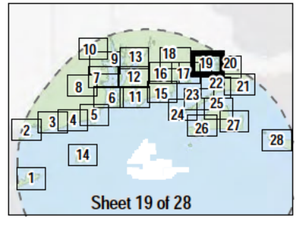
HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area
Above-Ground Historic Property
NRHP-Listed Property
Other Potential Historic Property
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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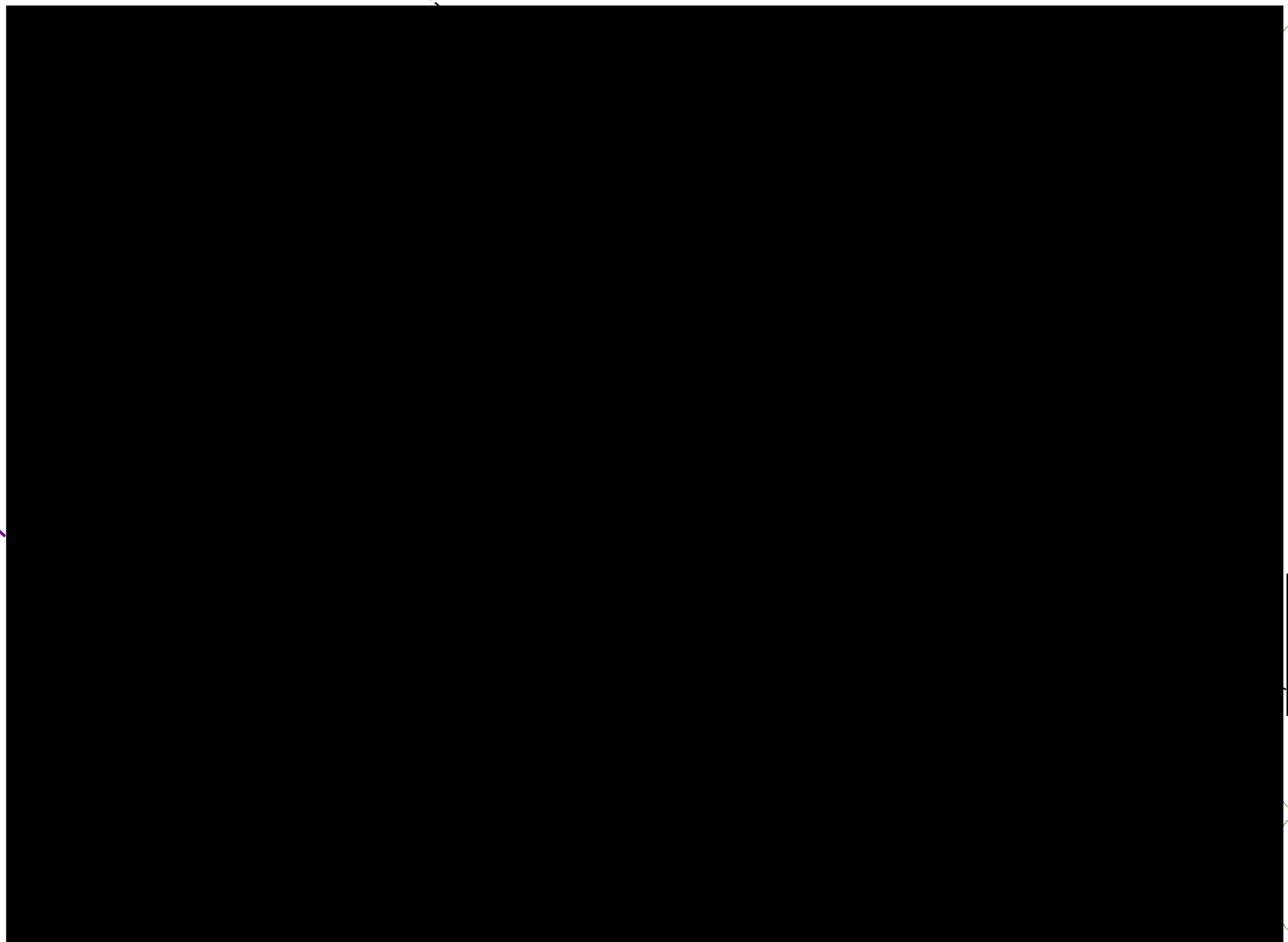


Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

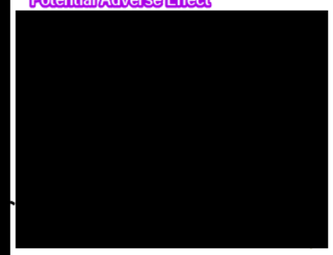
Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

Preliminary Area of Potential Effects (PAPE)
40-Mile Visual Study Area

Above-Ground Historic Property
Other Potential Historic Property
Traditional Cultural Property (TCP)
Municipal Boundary
State Boundary
Turbine Distance Intervals

Label Key for Historic Properties
No Adverse Effect
Potential Adverse Effect

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect

[redacted]

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- NRHP-Eligible Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)

Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect

[redacted]

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- NRHP-Listed Property
- NRHP-Eligible Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect

[redacted]

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

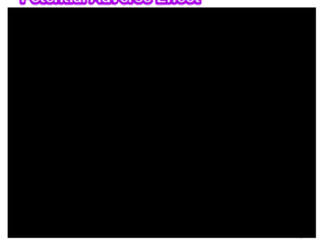
Above-Ground Historic Property

- NRHP-Listed Property
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect



Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Revolution Wind Farm

Outer Continental Shelf (OCS-A0486)

HRVEA (EDR 2023)
Figure 3.1-1: Above-Ground Historic Properties Within the Preliminary Area of Potential Effects

- Preliminary Area of Potential Effects (PAPE)
- 40-Mile Visual Study Area

Above-Ground Historic Property

- National Historic Landmark
- Other Potential Historic Property
- Traditional Cultural Property (TCP)
- Municipal Boundary
- State Boundary
- Turbine Distance Intervals

Label Key for Historic Properties

No Adverse Effect

Potential Adverse Effect

[redacted]

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on July 28, 2022. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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APPENDIX C

Visual Simulations at the Pertinent Key Observation Points for Adversely Affected National Historic Landmarks

Revolution Wind | Powered by Ørsted & Eversource

AI03: Newport Cliff Walk, Newport, Rhode Island Existing

Conditions

If Rotation Size(W" in width by 20.3" h height. Images should be viewed from 15 inches with 5 visionthe proper perspective.

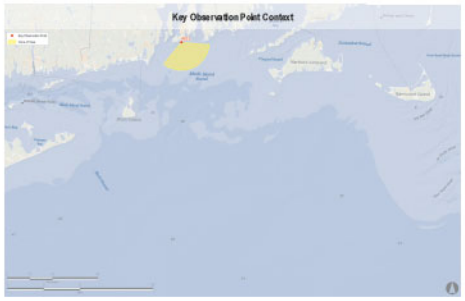
Environmental Data
Date Taken: 7/20/2017
Time: 7:03 AM
Temperature: 59°F
Humidity: 95%
Visibility: >10 miles
Wind Direction: Calm
Wind Speed: 0 mph
Condition s Observed: Fair

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 22.0 feet AMSL
Notes:

Key Observation Point Information
County: Newport
Town: Newport
State: Rhode Island
Location :Aquidneck Island
Latitude, Longitude: 41.45115° N,71.31157° W
Direction of View (Center): South Southwest (155.7°)
Field of View: 124° x 15°

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Shoreline Residential
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Newport/Ocean Drive State Scenic Area, CliffWalk National Recreation Trail, Newport National Historic Landmark

- Photosimulation Size(W" in width by 20.3" h height. Images should be viewed from 15 inches with 5 visionthe proper perspective.
- The potential number of WTGs and OSS visualized from viewer accessible locations consists of the path mostlikelyunder the offshore, viewer height, andmaximum rotation height. Thisconceptis does notconsider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based onpreliminary publicly available project data. Projects for which Rhode Island are only available, WTGsize and for offsubstation positions. CAD-positioned dimension consists of in the photosimulation e mockport to photosimulation.
- Nighttime photosimulationwere digitallyupdated from daytimephotographs. Nighttime photographs captured at each representative KOP where the panoramic locked existinglight sources.
- The existing WTGs associated with the Block Island® 66 Farm are 10.0 miles South Of Point. In the daytime photosimulation,the WTGs appear bold due to atmospheric perspective commonly encountered clear daytimeclear theoreWhen finished white photochemistries. In order tofacilitate maximumpossible visibilityof the proposed WTG, the diagonal atmosphericperspective is not applicable the photosimulation.
- Photographsare used obtained from NLSI during field review due to public access restrictions in place of an actualphotog aph from this location,GISF. model orbital three-dimensional (3D) model of the island.



Revolution Wind

Powered by Ørsted & Eversource

AI03: Newport Cliff Walk, Newport, Rhode Island

Visual Simulation: 2023 Project Construction (South Fork Wind and Vineyard Wind North)

If Rotation Size(W" or width by 20.3" h height. Images should be viewed from a distance of 15 inches in order facilitate for proper perspective.

Environmental Data
Date Taken: 7/20/2017
Time: 7:03 AM
Temperature: 59°F
Humidity: 95%
Visibility: >10 miles
Wind Direction: Calm
Wind Speed: 0 mph
Condition s Observed: Fair

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 22.0 feet AMSL
Notes:

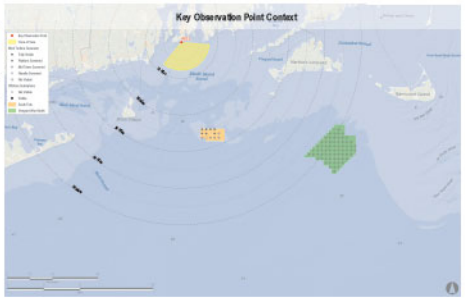
Key Observation Point Information
County: Newport
Town: Newport
State: Rhode Island
Location :Aquidneck Island
Latitude, Longitude: 41.45115° N,71.31157° W
Direction of View (Center): South/Southeast (155.7°)
Field of View: 124° x 95°

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Shoreline Residential
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Newport/Ocean Drive State Scenic Area, CliffWalk National Recreation Trail, Newport National Historic Landmark

- Photosimulation Size(W" or width by 20.3" h height. Images should be viewed from 15 inches in order facilitate proper perspective.
- The potential number of WTGs and OSS screened from view was established using a combination of the path model based on the ZTV zone, viewer height, sea surface to horizon distance, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG base and for offshore substations, OSS preliminary dimensions consist of in this photosimulation are analyzed in photosimulation.
- Nighttime photosimulations digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources.
- The existing WTGs associated with the Block Island® 6.0 Farm are 30.2 miles from KOP L004. In the daytime photosimulation, the WTGs appear half size to atmospheric perspective commonly encountered clear daytime visibility conditions. However, these distant white photosimulations. In order to illustrate maximum potential visibility of the proposed WTGs, this diagonal atmospheric perspective is not applied to the photosimulation.
- Photographs were obtained from NLSI during field review due to public access restrictions in place of an actual photo spot from this location. A GIS -model-emitted three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Further Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	12	12	24.5	28.8
Vineyard Wind North	2023	14 MW	0	69	NA	NA



Revolution Wind

Powered by Ørsted & Eversource

AI03: Newport Cliff Walk, Newport, Rhode Island

Visual Simulation: 2023 Project Construction with Revolution Construction added (Revolution Wind, South Fork Wind, and Vineyard Wind North)

If Rotodyn Size(m) or width by 24.3° h height, Imagery should be viewed from a distance of 15 Inches in order Rotodyn for proper perspective.

Rotodyn at nearly 1/2 mile from the viewer

Environmental Data
Date Taken: 7/20/2017
Time: 7:03 AM
Temperature: 59°F
Humidity: 95%
Visibility: >10 miles
Wind Direction: Calm
Wind Speed: 0 mph
Condition s Observed: Fair

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 22.0 feet AMSL
Notes:

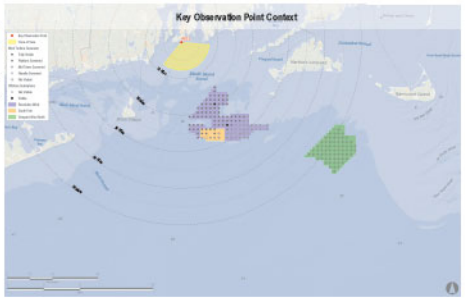
Key Observation Point Information
County: Newport
Town: Newport
State: Rhode Island
Location :Aquidneck Island
Latitude, Longitude: 41.45115° N,71.31157° W
Direction of View (Center): South/Southeast (155.7°)
Field of View: 124° x 55°

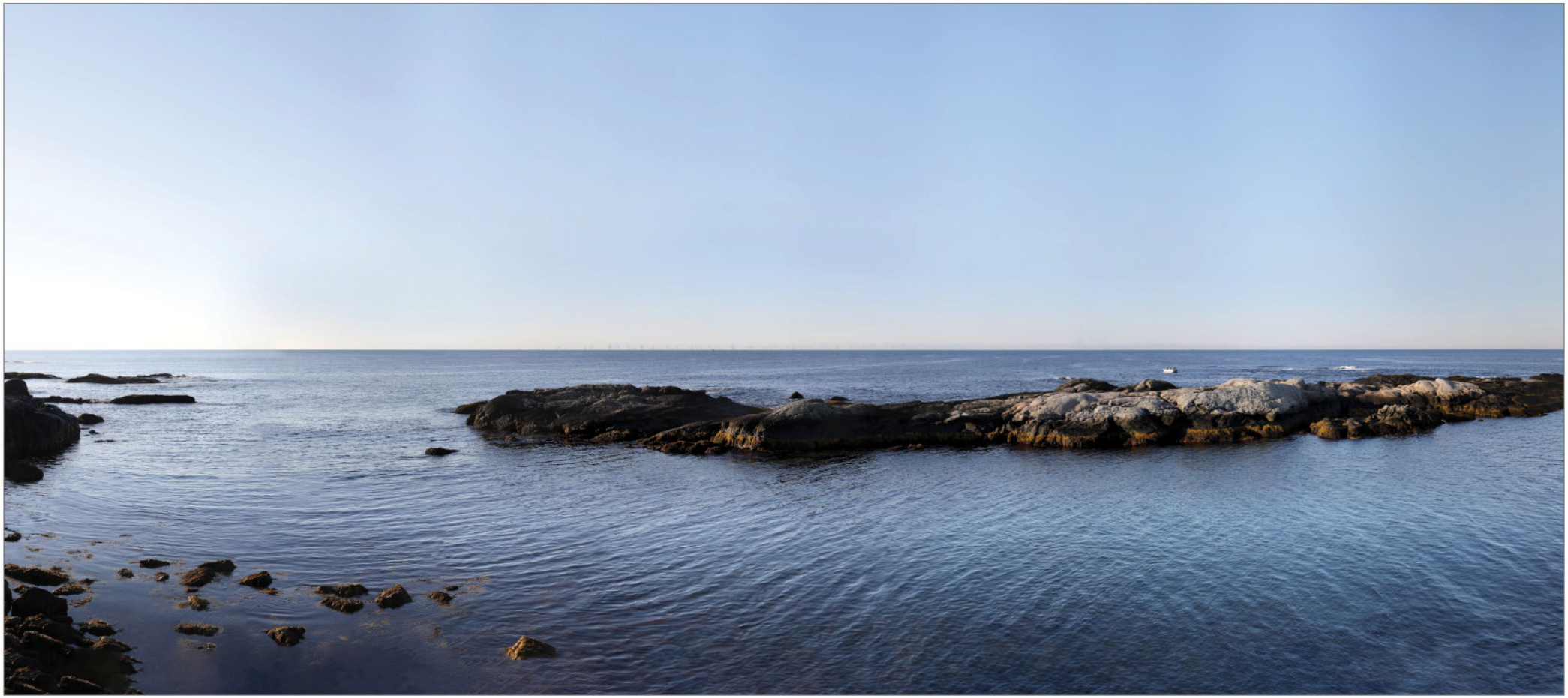
Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Shoreline Residential
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Newport/Ocean Drive State Scenic Area, CliffWalk National Recreation Trail, Newport National Historic Landmark

- Photosimulation Size(W" in width by 24.3° h height. Imagesshould be viewed from 15 inchesin order fo obtainthe proper perspective.
- The potential number of WTGs and OSS screened from viewvarysubstantiallyas outsides of the path modelfromalong the distance, viewer height, curvesfrom elevation height. Thisincludes does notconsider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based onpreliminary publicly available project data. Projects for which Rhode Island are only available, WTGsizes and for offsubstation positions.CAD-positionsand dimensions consists of in this photosimulation e mployed to photosimulfocate.
- Nighttime photosimulationwere digitallyupdated from daytimephotographs. Nighttime photographs captured at each represented KOP where the panoramas lacked existinglight sources.
- The existing WTGs associated with the Block Island® 66 Farm are 30.0 miles from KOP L004. In the daytime photosimulation,the WTGs appear bold due to atmospheric perspective commonly occurringon clear daysnotion theoreticon finished inthe photosimulate. In order tofacilitate realisticcomparisonbetween the proposed WTG, this diagonal atmosphericperspective is not applied to the photosimulation.
- Photographsare used obtained from NLH during field review due to public access restrictions in place of an actualpicking spb from this location,ZEIR created actual three-dimensional (3D) modelof the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Further Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	12	13	24.5	29.8
Vineyard Wind North	2023	14 MW	0	69	NA	NA
Revolution Wind	2023	12 MW	102	102	15.3	33.8





Revolution Wind | Powered by Ørsted & Eversource

AI03: Newport Cliff Walk, Newport, Rhode Island

Visual Simulation: Full Lease Build-out Including Revolution Wind

Environmental Data
Date Taken: 7/20/2017
Time: 7:03 AM
Temperature: 59°F
Humidity: 95%
Visibility: >10 miles
Wind Direction: Calm
Wind Speed: 0 mph
Condition s Observed: Fair

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 22.0 feet AMSL

Key Observation Point Information
County: Newport
Town: Newport
State: Rhode Island
Location: Aquidneck Island
Latitude, Longitude: 41.45115° N, 71.31157° W
Direction of View (Center): South/Southeast (155.7°)
Field of View: 124° x 75°

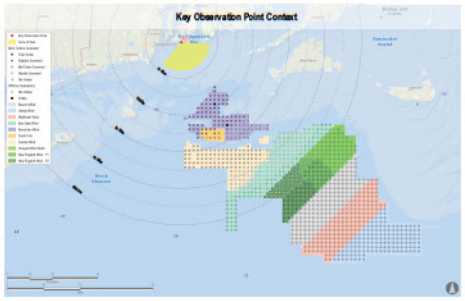
Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Shoreline Residential
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Newport/Ocean Drive State Scenic Area, Cliff Walk National Recreation Trail, Newport National Historic Landmark

Notes:

- Photosimulation Size 34" in width by 19.3" in height. Image should be viewed from a distance of 15 inches to retain realism for proper perspective.
- The potential number of WTGs and OSS proposed from electrical/technology curtailment of the 880 MW project for offshore, rotor height, undisturbed rotation height. This analysis does not consider the ensuing effects of intervening regulation, elections, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Notices have not yet been available, WTG were used for offshore substation positions. OSS preliminary dimensions consists of in this photosimulation a analogue to photosimulation.
- Nighttime photosimulations are digitally adjusted from daytime photographs. Nighttime photographs captured at each represented KOP where the presence lacked existing light sources.
- The existing WTGs associated with the Block Island Wind Farm are 3.8 miles from CP 1.004. In the daytime photosimulation, the WTGs appear bold due to atmospheric perspective commonly encompass clear day vision less conditions. Rendered white photosimulation. In order to illustrate maximum potential visibility of the proposed WTG, this diagonal atmospheric perspective is not applicable the photosimulation.
- Photographs used obtained from NLW during field review due to public access restrictions. In place of a corresponding gin from the location, ESRI created orbital three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs Visible	Total Number of WTGs in ORE Project	Distance to Nearest Visible WTG (mi)	Distance to Furthest Visible WTG (mi)
South Fork Wind Farm	2023	13 MW	12	12	24.5	28.8
Vineyard Wind North	2023	14 MW	0	69	N/A	N/A
Revolution Wind	2023	13 MW	102	102	15.3	33.8
New England Wind Phase 1	2024	16 MW	0	41	46.8	46.8
New England Wind Phase 2	2024	16 MW	37	79	46.8	51.1
Sunrise Wind	2024	15 MW	122	123	26.8	42.8
Mayflower Wind	2024	12 MW	0	149	N/A	N/A
Liberty Wind	2025-2026	12 MW	0	130	N/A	N/A
Sunrise Wind	2025-2026	12 MW	0	157	N/A	N/A
Bay State Wind	2025-2026	12 MW	108	185	37.1	44.5



Revolution Wind | Powered by Ørsted & Eversource

AI03: Newport Cliff Walk, Newport, Rhode Island

Visual Simulation: Full Lease Build-out Excluding Revolution Wind

If formatted 30x42in² or width by 29.7" h height, Images should be viewed from a distance of 15 inches in order facilitate for proper perspective.

Environmental Data
Date Taken: 7/20/2017
Time: 7:03 AM
Temperature: 59°F
Humidity: 95%
Visibility: >10 miles
Wind Direction: Calm
Wind Speed: 0 mph
Condition s Observed: Fair

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 22.0 feet AMSL
Notes:

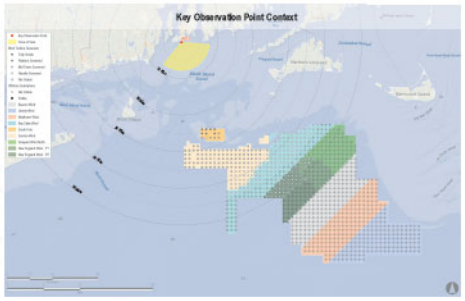
Key Observation Point Information
County: Newport
Town: Newport
State: Rhode Island
Location :Aquidneck Island
Latitude, Longitude: 41.45115° N,71.31157° W
Direction of View (Center): South/Southeast (155.7°)
Field of View: 124° x 95°

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Shoreline Residential
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Newport/Ocean Drive State Scenic Area, CliffWalk National Recreation Trail, Newport National Historic Landmark

- Photosimulation 30x42in² in width by 29.7" h height. Images should be viewed from 15 inches in order facilitate proper perspective.
- The potential number of WTGs and OSS forecasted from viewer exclusion/visibility overview of the path models within the offshore, viewer height, curvature from shoreline height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG size and for offshore substations, OSS positions and OSS preliminary dimensions consider of in this photosimulation are analyzed in photosimulation.
- Nighttime photosimulations digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources.
- The existing WTGs associated with the Block Island Wind Farm are 30.2 miles from KOP 1.004. In the daytime photosimulation, the WTGs appear half size in atmospheric perspective commonly seen images clear day conditions. Nacelle lights are not visible photosimulation. In order to illustrate maximum potential visibility of the proposed WTGs, this diagonal atmospheric perspective is not applicable the photosimulation.
- Photographs were not obtained from MLH during field review due to public access restrictions in place of an actual photo taken from this location, ZVI model existing three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSS in Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	12	13	24.5	29.8
Vineyard Wind North	2023	14 MW	0	69	NA	NA
New England Wind Phase 1	2024	15 MW	3	41	45.8	49.6
New England Wind Phase 2	2024	19 MW	37	79	46.8	51.1
Sunrise Wind	2024	15 MW	122	123	29.6	42.6
Mayflower Wind	2024	12 MW	0	149	NA	NA
Liberty Wind	2025-2030	12 MW	0	109	NA	NA
Empire Wind	2025-2030	12 MW	0	157	NA	NA
Bay State Wind	2025-2030	12 MW	100	185	37.1	44.5



Revolution Wind | Powered by Ørsted & Eversource

AI03: Newport Cliff Walk, Newport, Rhode Island

Visual Simulation: Revolution Wind Without Other Foreseeable Future Changes

If Rotation Size(W" or width by 24.3" h height. Images should be viewed from a distance of 15 inches in order to be in proper perspective.

Environmental Data
Date Taken: 7/20/2017
Time: 7:03 AM
Temperature: 59°F
Humidity: 95%
Visibility: >10 miles
Wind Direction: Calm
Wind Speed: 0 mph
Condition s Observed: Fair

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 22.0 feet AMSL
Notes:

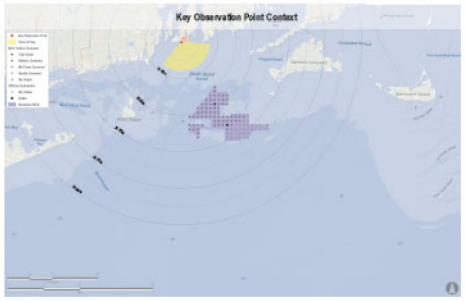
Key Observation Point Information
County: Newport
Town: Newport
State: Rhode Island
Location :Appledrek Island
Latitude, Longitude: 41.45115° N,71.31157° W
Direction of View (Center): South/Southeast (155.7°)
Field of View: 124° x 15°

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Shoreline Residential
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Newport/Ocean Drive State Scenic Area, CliffWalk National Recreation Trail, Newport National Historic Landmark

- Photosimulation Size(W" in width by 24.3" h height. Images should be viewed from 15 inches in order to be in proper perspective.
- The potential number of WTGs and OSS screened from viewer ecosystem/meteorology consider of the path model based on the distance, viewer height, curvature/earth relative height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG base and for offshore substations, OSS positioned dimension consider of in this photosimulation e analyzed in photosimulation.
- Nighttime photosimulation digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panorama lacked existing light sources.
- The existing WTGs associated with the Block Island® 66 Farm are 30.0 miles from KOP L004. In the daytime photosimulation, the WTGs appear half size due to atmospheric perspective commonly encountered when the particular theoretical has finished in the photosimulation. In order to illustrate maximum potential visibility of the proposed WTGs, this diagonal atmospheric perspective is not applicable the photosimulation.
- Photographs were obtained from NLH during field review due to public access restrictions in place of an on-lighting spit from this location,ESR created existing three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSS in Viable*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Further Visible WTG (miles)
Revolution Wind	2023	12 MW	102	102	15.3	33.8



Revolution Wind

Powered by Ørsted & Eversource

BI04: Southeast Lighthouse, New Shoreham, Rhode Island

Existing Conditions

If Rotation Size(W" in width by 24.3" h height. Images should be viewed from 15 inches with 5 visionfor proper perspective.

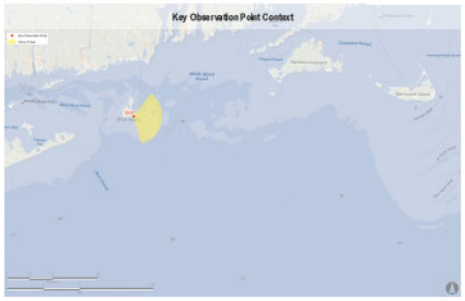
Environmental Data
Date Taken: 9/16/2017
Time: 12:20 PM
Temperature: 68°F
Humidity: 69%
Visibility: >10 miles
Wind Direction: Northeast
Wind Speed: 8 mph
Conditions Observed: Clear

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.15287° N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 35°

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation Size(W" in width by 24.3" h height. Images should be viewed from 15 inches with 5 visionfor proper perspective.
- The potential number of WTGs and OSS screened from view was established using a number of the path methodsunder the offshore, viewer height, andmaximum rotation height. Thisconceptis does notconsider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based onpreliminary publicly available project data. Projects for which Rhode Island are only available, WTGsizes and for offsubstation positions. OSS positionsand dimensions consists of in this photosimulation e employed to photosimulfiltudes.
- Nighttime photosimulationswere digitallyupdated from daytimephotographs. Nighttime photographs captured at each representat ICP where the panoramic lacked existinglight sources.
- The existing WTGs associated with the Block Island® 66 Farm are 10.3 miles fromt OP LOH. In the daytime photosimulation,the WTGs appear bold due to atmospheric perspective commonly occurringon clear dayswhen theviewDoes findwind isthis photosimulate. In order tofacilitate maximumpotential visibilityof the proposed WTG, this diagonal atmosphericperspective is not applicable the photosimulation.
- Photographsare used obtained from NLH during field review due to public access restrictions in place of an actualphotog aph from this location,EDR created orbital three-dimensional (3D) modelof the island.



Revolution Wind | Powered by Ørsted & Eversource

BI04: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: 2023 Project Construction (South Fork Wind and Vineyard Wind North)

If Rotation Size(W" or width by 24.3" h height. Images should be viewed from a distance of 15 Inches in order Rotation for proper perspective.

Environmental Data
Date Taken: 9/16/2017
Time: 12:20 PM
Temperature: 68°F
Humidity: 63%
Visibility: >10 miles
Wind Direction: Northeast
Wind Speed: 8 mph
Condition s Observed: Clear

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

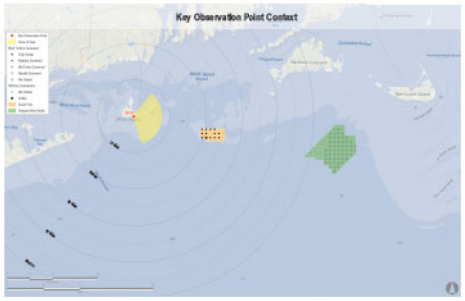
Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location : Block Island
Latitude, Longitude: 41.15287° N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation Size(W" or width by 24.3" h height. Images should be viewed from 15 inches in order to obtain the proper perspective.
- The potential number of WTGs and OSS screened from view was calculated using a combination of the path model based on the ridgeline, viewer height, and bare ground elevation height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG sizes and for offshore substations positions. OSS positions and dimensions consider of in this photosimulation s analyzed in photosimulation.
- Nighttime photosimulations are digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources.
- The existing WTGs associated with the Block Island wind Farm are 30.0 miles from KOP1.BIH. In the daytime photosimulation, the WTGs appear bold due to atmospheric perspective commonly occurring on clear days when Rhode Island is visible. In order to illustrate maximum potential visibility of the proposed WTGs, this diagnosed atmospheric perspective is not applied to the photosimulation.
- Photographs were obtained from NLH during field review due to public access restrictions in place of an actual photographs from this location.ZVI model emitted three-dimensional (3D) model of the Island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.0
Vineyard Wind North	2023	14 MW	15	69	49.0	53.7



Revolution Wind | Powered by Ørsted & Eversource

BI04: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: 2023 Project Construction with Revolution Construction added (Revolution Wind, South Fork Wind, and Vineyard Wind North)

If Rotation: 51x74" or width by 29.3" h height. Images should be viewed from a distance of 15 Inches in order Rotation for proper perspective.

Environmental Data
Date Taken: 9/16/2017
Time: 12:20 PM
Temperature: 68°F
Humidity: 62%
Visibility: >10 miles
Wind Direction: Northeast
Wind Speed: 8 mph
Conditions Observed: Clear

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

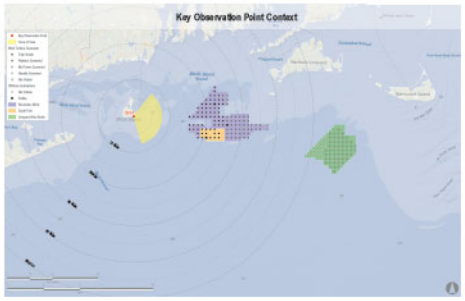
Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.15287° N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation Size:74" in width by 29.3" h height. Images should be viewed from 15 inches in order to obtain the proper perspective.
- The potential number of WTGs and OSS screened from view in a photosimulation consists of the path visible based on the distance, viewer height, and maximum rotation height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG sizes and for offshore substations positions. OSS positions and dimensions consists of in this photosimulation are analyzed in photosimulation.
- Nighttime photosimulations are digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources.
- The existing WTGs associated with the Block Island 6 MW Wind Farm are 30.0 miles from KOP. In the daytime photosimulation, the WTGs appear bold due to atmospheric perspective commonly occurring in clear daytime conditions. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources. This analysis does not consider the screening effects of intervening vegetation, structures, and topography.
- Photographs were obtained from NLSI during field review due to public access restrictions in place at an active/existing spit from this location. FEIR: created artificial three-dimensional (3D) models of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	10	12	19.0	24.0
Vineyard Wind North	2023	14 MW	15	69	48.0	53.7
Revolution Wind	2023	12 MW	102	102	15.2	37.2



Revolution Wind | Powered by Ørsted & Eversource

BI04: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: Full Lease Build-out Including Revolution Wind

If this box is 2" in width by 2" in height, image should be viewed from a distance of 15 inches in order to match the proper perspective.

Environmental Data
Date Taken: 9/16/2017
Time: 12:20 PM
Temperature: 68°F
Humidity: 62%
Visibility: >10 miles
Wind Direction: Northeast
Wind Speed: 8 mph
Conditions Observed: Clear

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

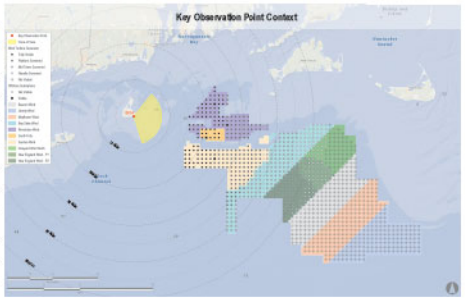
Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.1526°N, 71.55085° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation 52x24" in width by 20.2" in height. Image should be viewed from 15 inches in order to match the proper perspective.
- The potential number of WTGs and OSS theoretically visible from the key observation point (KOP) is based on a desktop analysis that considers the distance, curvature of the earth, and intervening vegetation and topography. Actual visibility of the Project may be substantially less than the theoretical visibility indicated in this analysis due to the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation locations and dimensions are based on preliminary publicly available project data. Projects for which finalized layouts are not available, WTG locations and/or offshore substation positions, OSS positions and dimensions assumed in this photosimulation are analyzed in a photosimulation.
- Nighttime photosimulations were digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic lacked sufficient ambient light to render a visible image.
- The existing WTGs associated with the Block Island Wind Farm are located approximately 3.8 miles from the KOP. In the daytime photosimulation, the WTGs appear bold due to atmospheric perspective commonly occurring on clear days when there is little to no haze, fog, or mist in the air. However, at night, the WTGs appear faint due to the distance from the KOP, the relatively small number of WTGs, the 30-degree atmospheric perspective is not applicable for photosimulations.
- Photographs were obtained from NLSI during field review due to public access restrictions in place at an active lighthouse. A three-dimensional (3D) model was developed of the island using photographs and Light Detection and Ranging (LiDAR) data. The 3D model was then used to determine the location of the photographs in relation to the Project.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.8
Vineyard Wind North	2023	14 MW	15	69	48.6	53.7
Revolution Wind	2023	12 MW	102	102	15.2	37.2
New England Wind Phase 1	2024	16 MW	41	41	48.8	56.6
New England Wind Phase 2	2024	19 MW	79	79	43.1	54.9
Sunrise Wind	2024	15 MW	123	123	15.8	39.8
Mayflower Wind	2024	12 MW	0	149	NA	NA
Liberty Wind	2025-2030	12 MW	0	130	NA	NA
Beacon Wind	2025-2030	12 MW	13	157	51.8	53.9
Bay State Wind	2025-2030	12 MW	150	195	33.9	53.3



Revolution Wind | Powered by Ørsted & Eversource

BI04: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: Full Lease Build-out Excluding Revolution Wind

If formatted 30x24" in width by 24.3" h height, Images should be viewed from a distance of 15 inches in order buildout for proper perspective.

Environmental Data
Date Taken: 9/16/2017
Time: 12:20 PM
Temperature: 68°F
Humidity: 62%
Visibility: >10 miles
Wind Direction: Northeast
Wind Speed: 8 mph
Condition s Observed: Clear

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.1528°F N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

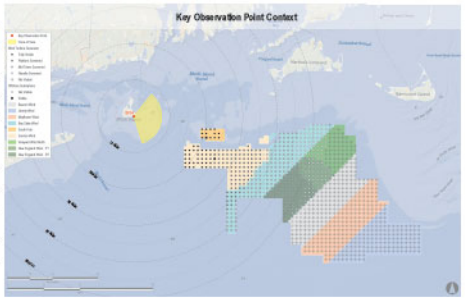
Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation 30x24" in width by 24.3" h height. Images should be viewed from 15 inches in order to achieve proper perspective.
- The potential number of WTGs and OSS forecasted from viewer was based on the geographic coordinates of the path middle based on the distance, viewer height, and maximum rotation height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not yet available, WTG locations and/or offshore substation positions, OSS positions and dimensions consist of in this photosimulation are analyzed in photosimulations.
- Nighttime photosimulations are digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources.
- The existing WTGs associated with the Block Island Wind Farm are 30.2 miles from KOP-BI04. In the daytime photosimulation, the WTGs appear hazy due to atmospheric perspective commonly occurring in clear daytime conditions. Nighttime photographs captured at each represented KOP where the panoramic lacked existing light sources. This daytime photosimulation, the WTGs appear hazy due to atmospheric perspective commonly occurring in clear daytime conditions. This nighttime photosimulation exhibited the proposed WTG. No diagonal atmospheric perspective is not applicable for this photosimulation.
- Photographs were not obtained from BI01 during field review due to public access restrictions in place at an existing lighthouse. In place of an existing light from this location, ZVI model existing three-dimensional (3D) modeled the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.0
Vineyard Wind North	2023	14 MW	15	69	49.6	53.7
New England Wind Phase 1	2024	15 MW	41	41	40.0	50.5
New England Wind Phase 2	2024	19 MW	79	79	43.1	54.9
Sunrise Wind	2024	15 MW	123	123	19.9	39.8
Mayflower Wind	2024	12 MW	0	149	NA	NA
Liberty Wind	2025-2030	12 MW	0	109	NA	NA
Empire Wind	2025-2030	12 MW	13	157	51.0	53.8
Bay State Wind	2025-2030	12 MW	193	195	33.9	53.3



Revolution Wind | Powered by Ørsted & Eversource

BI04: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: Revolution Wind Without Other Foreseeable Future Changes

If Rotation Size(W" or width by 24.3" h height. Images should be viewed from a distance of 15 Inches in order Rotation for proper perspective.

Environmental Data
Date Taken: 9/16/2017
Time: 12:20 PM
Temperature: 68°F
Humidity: 63%
Visibility: >10 miles
Wind Direction: Northeast
Wind Speed: 8 mph
Condition s Observed: Clear

Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

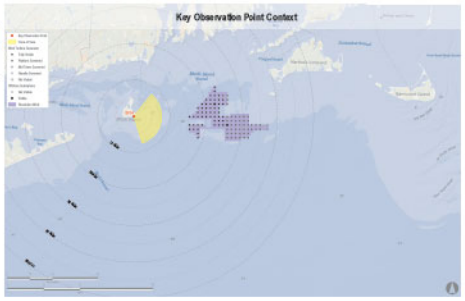
Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location : Block Island
Latitude, Longitude: 41.15287° N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation Size(W" or width by 24.3" h height. Images should be viewed from 15 inches in order to obtain the proper perspective.
- The spatial center of WTGs and OSS removed from viewer as simulation design consider of the path model based on the distance, viewer height, and earth curvature relative height. This simplistic does not consider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG base and for offshore substation positions. OSS positioned dimension consider of in this photosimulation e-analyst to photobase/Studio.
- Nighttime photosimulations are digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic locked existing light sources.
- The existing WTGs associated with the Block Island 6 6 Units are 30.0 miles from KOP LBIH. In the daytime photosimulation, the WTGs appear bold due to atmospheric perspective commonly encountered clear daytime conditions. Nighttime photographs captured at each represented KOP where the panoramic locked existing light sources. In the nighttime photosimulation, the WTGs appear bold due to atmospheric perspective commonly encountered clear daytime conditions. Nighttime photographs captured at each represented KOP where the panoramic locked existing light sources.
- Photographs were obtained from NLH during field review due to public access restrictions in place at an active/existing spit from this location.ZEIR- created existing three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSS's Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
Revolution Wind	2023	12 MW	102	102	15.2	37.2



Revolution Wind

Powered by Ørsted & Eversource

BI04 Night: Southeast Lighthouse, New Shoreham, Rhode Island

Existing Conditions

If Rotation Size(W in width by 20.3° h height. Images should be viewed from a distance of 15 inches to order Rotation for proper perspective.

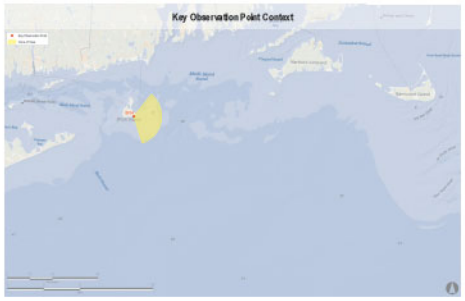
Environmental Data
Date Taken: 9/10/2017
Temperature: 69°F
Humidity: 93%
Visibility: >10 miles
Wind Direction: North-Northeast
Wind Speed: 6 mph
Conditions Observed: Fair

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.15281° N,71.55188° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

Visual Resources
Landscape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesthetic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation Size(W in width by 20.3° h height. Images should be viewed from 15 inches to order 5 rotation proper perspective.
- The potential number of WTGs and OSS screened from viewer sociodemographic consider of the path visibleunder the diffuse, viewer height, underwater shadow height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG sizes and for offsubstation positions. OSS positionsand dimensions consider of in this photosimulation e analyzed in photosimulation.
- Nighttime photosimulationsare digitallyupdated from daytimephotographs. Nighttime photographs captured at each represented KOP where the panoramic lacked existinglight sources.
- The existing WTGs associated with the Block Island Wind Farm are 30.0 miles from KOP BI04. In the daytime photosimulation,the WTGs appear hold due to atmospheric perspective commonly occurringon clear daysandare thereforeBlock Islandvisible photosimulation. In order tofacilitate maximumpossible visibilityof the proposed WTG, this diagonal atmosphericperspective is not applicable the photosimulation.
- Photographsare used obtained from NLSI during field review due to public access restrictions in place of an actualphotog aph from this location,ESRI created existing three-dimensional (3D) modelof the island.



Revolution Wind | Powered by Ørsted & Eversource

BI04 Night: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: 2023 Project Construction (South Fork Wind and Vineyard Wind North)

If formatted 22x34" or width by 20.2" h height, Image should be viewed from a distance of 15 inches in order facilitate for proper perspective.

Environmental Data
Date Taken: 9/16/2017
Temperature: 61°F
Humidity: 85%
Visibility: >10 miles
Wind Direction: North-Northwest
Wind Speed: 6 mph
Condition s Observed: Fair

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.1528°N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 95°

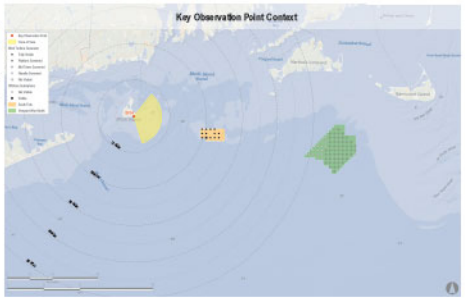
Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 181.1 feet AMSL
Notes:

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation 22x34" in width by 20.2" h height. Image should be viewed from 15 inches in order to achieve proper perspective.
- The potential number of WTGs and OSS screened from viewer was established using a combination of the path model based on the distance, viewer height, and maximum rotation height. This simplistic does not consider the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Outside Island are only available, WTG locations and for offshore substations, OSS positions and dimensions consist of in this photosimulation a analogue to photobase studies.
- Nighttime photosimulations are digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramic locked at midnight and more.
- The existing WTGs associated with the Block Island Wind Farm are 30.2 miles from KOP L004. In the daytime photosimulation, the WTGs appear half size due to atmospheric perspective commonly occurring in clear daytime conditions. However, due to limited lighting environments exhibited the proposed WTGs, this diagonal atmospheric perspective is not applicable the photosimulation.
- Photographs were obtained from NLSI during field review due to public access restrictions in place of an actual photographs from this location. A 3-dimensional (3D) model of the Island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Further Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.0
Vineyard Wind North	2023	14 MW	0	69	NA	NA



Revolution Wind

Powered by Ørsted & Eversource

BI04 Night: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: 2023 Project Construction with Revolution Construction added (Revolution Wind, South Fork Wind, and Vineyard Wind North)

If formatted 22x34" or width by 24.3" h height, images should be viewed from a distance of 15 inches in order to match the proper perspective.

Environmental Data
Date Taken: 9/16/2017
Temperature: 61°F
Humidity: 85%
Visibility: >10 miles
Wind Direction: North-Northwest
Wind Speed: 6 mph
Condition s Observed: Fair

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.1528°N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 95°

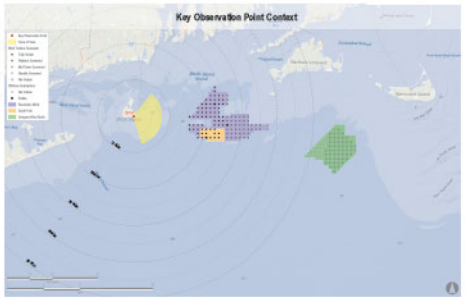
Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation 22x34" in width by 24.3" h height. Images should be viewed from 15 inches in order to match the proper perspective.
- The potential number of WTGs and OSS screened from viewer sustainability analysis consider of the split methodsunder the ditions, viewer height, sedimentary rock strata height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation locations and dimensions are based on preliminary publicly available project data. Projects for which Rhode Island are only available, WTG sizes and for offshore substation positions. OSS positions and dimensions consider of in this photosimulation e employed to photosimulation.
- Nighttime photosimulationsare digitallyupdated from daytimephotographs. Nighttime photographs captured at each represented KOP where the panoramic locked onto bright nature.
- The existing WTGs associated with the Block Island Wind Farm are 30.2 miles from KOP. In the daytime photosimulation, the WTGs appear hazy due to atmospheric perspective commonly occurringon clear daysunder theconditions finished inthis photosimulation. In order toillustrate maximumpotential visibility of the proposed WTG, this diagonal atmosphericperspective is not applicable the photosimulation.
- Photographsare used obtained from NLSI during field review due to public access restrictions. In place of an actualphotog raph from this location,ESRI created existing three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Nearest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.8
Vineyard Wind North	2023	14 MW	0	69	NA	NA
Revolution Wind	2023	12 MW	102	102	15.2	37.2



Revolution Wind

Powered by Ørsted & Eversource

BI04 Night: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: Full Lease Build-out Including Revolution Wind

If formatted 22x34" or width by 24.2" h height, Imagery should be viewed from a distance of 15 inches in order facilitate for proper perspective.

Environmental Data
Date Taken: 9/16/2017
Temperature: 61°F
Humidity: 82%
Visibility: >10 miles
Wind Direction: North-Northwest
Wind Speed: 6 mph
Condition s Observed: Fair

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.15287° N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 95°

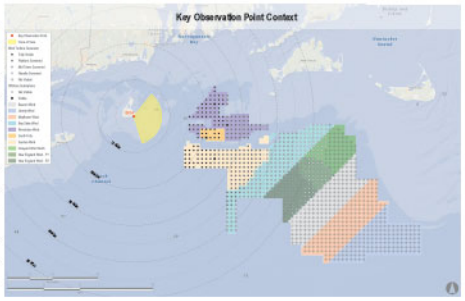
Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 181.1 feet AMSL
Notes:

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation 22x34" in width by 24.2" h height. Images should be viewed from 15 inches in order to achieve proper perspective.
- The potential number of WTGs and OSS screened from viewer was established using a combination of the path methodology for the offshore, viewer height, and earth curvature relative height. This conceptual does not consider the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which Outside Island are only available, WTG locations and for offshore substations positions. CAD professional dimensions consider of in this photosimulation or analyzed in photosimulation.
- Nighttime photosimulations are digitally updated from daytime photographs. Nighttime photographs captured at each represented KOP where the panoramas lacked existing light sources.
- The existing WTGs associated with the Block Island off Farm are 30.2 miles from E OP LOH. In the daytime photosimulation, the WTGs appear hot due to atmospheric perspective commonly occurring on clear days when there are fewer visible white photochaffs. In order to illustrate maximum potential visibility of the proposed WTG, this degraded atmospheric perspective is not applied to the photosimulation.
- Photographers used obtained from NLSI during field review due to public access restrictions in place of an astrophotography split from this location, ESRI created existing three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Farthest Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.8
Vineyard Wind North	2023	14 MW	0	69	NA	NA
Revolution Wind	2023	12 MW	102	102	15.2	37.2
New England Wind Phase 1	2024	16 MW	4	41	48.8	48.8
New England Wind Phase 2	2024	19 MW	58	79	43.1	50.7
Sunrise Wind	2024	15 MW	123	123	15.8	38.2
Mayflower Wind	2024	12 MW	0	149	NA	NA
Liberty Wind	2025-2030	12 MW	0	130	NA	NA
Beacon Wind	2025-2030	12 MW	0	157	NA	NA
Bay State Wind	2025-2030	12 MW	134	185	33.0	45.0



Revolution Wind

Powered by Ørsted & Eversource

Environmental Data
Date Taken: 9/16/2017
Temperature: 61°F
Humidity: 82%
Visibility: >10 miles
Wind Direction: North-Northwest
Wind Speed: 6 mph
Condition s Observed: Fair

Key Observation Point Information
County: Washington
Town: New Shoreham
State: Rhode Island
Location: Block Island
Latitude, Longitude: 41.1528°N, 71.55885° W
Direction of View (Center): East (90.0°)
Field of View: 124° x 55°

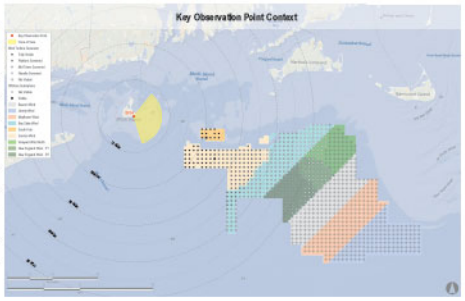
Camera Information
Camera: Canon EOS 5D Mak IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 161.1 feet AMSL
Notes:

Visual Resources
Land scape Similarity Zone: Maintained Recreation Area, Coastal Bluff
User Group: Local Resident, Tourist/Vacationers
Aesth etic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area

- Photosimulation 52x34" in width by 20.3" h height. Images should be viewed from 15 inches with a distance of 15 inches in order buildings be proper perspective.
- The potential number of WTGs and OSS screened from viewer sociostakeholdergs consider of the split matchboxes the distance, viewer height, curvature from viewer height. Thisconceptu does notconsider the screening effects of intervening vegetation, structures, and topography
- Offshore Substation locatio and dimensions are based onpreliminary publicly available project data. Projects for which Rhode Island are only available, WTGmore and for offsubstation positions, OSS positionsand dimensions consider of in this photosimulation e mockpot to potentialvisibility.
- Nighttime photosimulationwere digitallyupdated from daytimephotographs. Nighttime photographs captured at each representat ICP where the panoramic lacked existinglight sources.
- The existing WTGs associated with the Block Island Wind Farm are 30.2 miles from E P LOH. In the daytime photosimulation,the WTGs appear hot due to atmospheric perspective commonly encountgen clear daymorthan theseWGms finished inthis photosimulatio. In order tofacilitate maximumpotential visibilityof the proposed WTG, this degreed atmosphericperspective is not applicable the photosimulation.
- Photographsare used obtained from NLSI during field review due to public access restrictions in place of an actualphotog aph from this location,E SRI created orbital three-dimensional (3D) modelof the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSS per Project	Distance to Nearest Visible WTG (miles)	Distance to Further Visible WTG (miles)
South Fork Wind Farm	2023	12 MW	13	13	19.0	24.8
Vineyard Wind North	2023	14 MW	0	69	NA	NA
New England Wind Phase 1	2024	15 MW	4	41	40.8	40.8
New England Wind Phase 2	2024	19 MW	58	79	43.1	50.7
Sunrise Wind	2024	15 MW	123	123	19.9	39.2
Mayflower Wind	2024	12 MW	0	149	NA	NA
Liberty Wind	2025-2030	12 MW	0	109	NA	NA
Empire Wind	2025-2030	12 MW	0	157	NA	NA
Bay State Wind	2025-2030	12 MW	134	195	33.9	49.8



BI04 Night: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: Full Lease Build-out Excluding Revolution Wind

If formatted 52x34" in width by 20.3" h height, images should be viewed from a distance of 15 inches in order buildings be proper perspective.

Transcribed in analog Viewing Area Size 24 inches

Revolution Wind | Powered by Ørsted & Eversource

BI04 Night: Southeast Lighthouse, New Shoreham, Rhode Island

Visual Simulation: Revolution Wind Without Other Foreseeable Future Changes

Environmental Data	Key Observation Point Information
Date Taken: 9/10/2017	County: Washington
Temperature: 61°F	Town: New Shoreham
Humidity: 85%	State: Rhode Island
Visibility: >10 miles	Location : Block Island
Wind Direction : North-Northwest	Latitude, Longitude 41.15281° N, 71.55485° W
Wind Speed: 6 mph	Direction of View (Center): East (90.0°)
Condition s Observed: Fair	Field of View: 124° x 70°

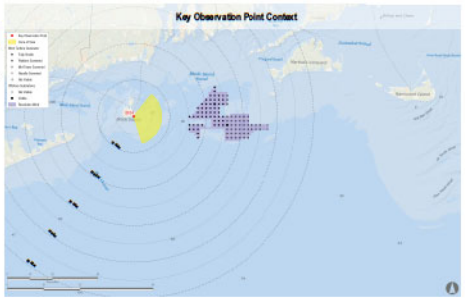
Camera Information	Visual Resources
Camera: Canon EOS 5D Mark IV	Landscape Similarity Zone: Maintained Recreation Area, Coastal Bluff
Resolution: 30.4 Megapixels	User Group: Local Resident, Tourist/Vacationers
Lens Focal Length: 50 mm	Aesthetic Resource: Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area
Camera Height: 181.1 feet AMSL	

Notes:

- Photosimulation Size 8x4" in width by 29.3" in height. Images should be viewed from a distance of 15 inches to center horizon for proper perspective.
- The potential number of WTGs and OSS recommended from viewshed methodology consider of the path model number for distance, viewer height, surface/water elevation height. This analysis does not consider the screening effects of intervening vegetation, structures, and topography.
- Offshore Substation location and dimensions are based on preliminary project analysis project data. Projects for which Rhode Island not only available, WTG sizes and the offshore substation positions, OSS positions and dimensions consider of in this photosimulation a analysis to photosimulation.
- Nighttime photosimulations digitally adjusted from daytime photographs. Nighttime photographs captured at each represented KOP where the preservation lacked sufficient ambient.
- The existing WTGs associated with the Block Island Wind Farm are 5.0 miles from KOP BI04. In the daytime photosimulation, the WTGs appear full due to atmospheric perspective commonly encountered on clear day-to-see these conditions illustrated within photosimulation. In order to illustrate maximum potential visibility of the proposed WTGs, this diagnosed atmospheric perspective is not applicable the photosimulation.
- Photographs were obtained from NLNY during field review due to public access restrictions. In place of a corresponding gap from the location, ESRI created oriented three-dimensional (3D) model of the island.

Reasonably Foreseeable Projects Represented in Visual Simulation

Project	Year of Development	WTG Model	Potential Number of WTGs & OSSs Visible*	Total Number of WTGs & OSSs in Project	Distance to Nearest Visible WTG (miles)	Distance to Furthest Visible WTG (miles)
Revolution Wind	2023	12 MW	102	102	15.2	37.2



Memorandum of Agreement

DRAFT MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT, MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND FARM AND REVOLUTION WIND EXPORT CABLE PROJECT

WHEREAS, the Bureau of Ocean Energy Management (BOEM) plans to authorize construction and operation of the Revolution Wind Farm and Revolution Wind Export Cable Project (Project) pursuant to Section 8(p)(1)(C) of the Outer Continental Shelf (OCS) Lands Act (43 U.S.C. 1337(p)(1)(C)), as amended by the Energy Policy Act of 2005 (Public Law No. 109-58) and in accordance with Renewable Energy Regulations at 30 Code of Federal Regulations (CFR) Part 585; and

WHEREAS, BOEM determined that the Project constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended (54 USC 306108), and its implementing regulations (36 CFR 800); and

WHEREAS, BOEM plans to approve with conditions the Construction and Operations Plan (COP) submitted by Revolution Wind, LLC (Revolution Wind); and

WHEREAS, BOEM determined the construction, operation, maintenance, and eventual decommissioning of the Project, designed for up to 100 offshore Wind Turbine Generators (WTGs), up to two offshore substations, up to two export cables collocated in one easement connecting from the OCS to landfall on Rhode Island shores, one onshore transmission cable connecting from landfall to one onshore substations and adjacent interconnection facility (ICF) with a buried connection line, and an overhead connection from the ICF to the existing TNEC Davisville Substation have the potential to adversely affect historic properties as defined under 36 CFR 800.16(l); and

WHEREAS, BOEM is preparing an Environmental Impact Statement (EIS) for the Project pursuant to the National Environmental Policy Act (42 USC 4321 et seq.) (NEPA) and elected to use the NEPA substitution process with its Section 106 consultation pursuant to 36 CFR 800.8(c); and

WHEREAS, BOEM notified in advance the State Historic Preservation Officers (SHPOs) of Connecticut, Massachusetts, New York, and Rhode Island and the Advisory Council on Historic Preservation (ACHP) on April 6, 2021 of their decision to use NEPA substitution and followed the standards for developing environmental documents to comply with the Section 106 consultation for this Project pursuant to 36 CFR 800.8(c), and posted this decision in the Federal Register with BOEM's Notice of Intent to prepare an EIS for the Project on April 30, 2021; and

WHEREAS, BOEM notified and invited the Secretary of the Interior (SOI), as represented by the National Park Service (NPS), to consult regarding this Project pursuant to the Section 106 regulations, including consideration of the potential effects to National Historic Landmarks (NHLs) as required under NHPA Section 110(f) (54 USC 306107) and 36 CFR 800.10, the NPS accepted BOEM's invitation to consult, and BOEM invited the NPS to sign this MOA as a concurring party; and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited Connecticut SHPO, Massachusetts SHPO, Rhode Island SHPO, and New York SHPO to consult on the Project on April 2, 2021, and Connecticut SHPO formally accepted on April 30, 2021, and Massachusetts SHPO, Rhode Island SHPO, and New York SHPO accepted through participation in consultation following that date; and

WHEREAS, the Project is within a commercial lease area that was subject to previous NHPA Section 106 review by BOEM regarding the issuance of the commercial lease and approval of site

assessment activities. Both Section 106 reviews for the lease issuance and the approval of the site assessment plan were conducted pursuant to the PA and concluded with No Historic Properties Affected for lease issuance on June 4, 2013, and site assessment approval on October 12, 2017 consistent with the Programmatic Agreement (PA) regarding the review of OCS renewable energy activities offshore Massachusetts and Rhode Island (*Programmatic Agreement Among The U.S. Department of the Interior, Bureau of Ocean Energy Management; the State Historic Preservation Officers of Massachusetts and Rhode Island; The Mashpee Wampanoag Tribe; the Narragansett Indian Tribe; the Wampanoag Tribe of Gay Head (Aquinnah); and the Advisory Council on Historic Preservation; Regarding the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island*) (Attachment 1).

WHEREAS, consistent with 36 CFR 800.16(d) and BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (May 27, 2020), BOEM defined the area of potential effects (APE) for the undertaking as the depth and breadth of the seabed potentially impacted by any bottom-disturbing activities, constituting the marine archaeological resources portion of the APE (marine APE); the depth and breadth of terrestrial areas potentially impacted by any ground disturbing activities, constituting the terrestrial archaeological resources portion of the APE (terrestrial APE); the viewshed from which offshore or onshore renewable energy structures would be visible, constituting the viewshed portion of the APE (visual APE); and any temporary or permanent construction or staging areas that may fall into any of the aforementioned offshore or onshore portions of the APE where direct, indirect, or cumulative effects could occur (see Attachment 2 APE Maps); and

WHEREAS, BOEM identified 451 aboveground historic properties in the offshore Project components' portion of the visual APE and two historic properties in the onshore Project components' portion of the visual APE; nineteen submerged historic properties and thirteen ancient submerged landforms and features (ASLFs) in the marine APE; and two historic properties in the terrestrial APE; and

WHEREAS, BOEM identified twelve NHLs within the visual APE for onshore and offshore development sand, BOEM's planning and action will avoid adverse effects on seven of the twelve NHLs in the visual APE (Montauk Point Lighthouse, Original U.S. Naval War College Historic District, Fort Adams Historic District, Battle of Rhode Island Historic District, Nantucket Historic District, New Bedford Historic District, and William Watts Sherman House); for other NHLs BOEM, to the maximum extent possible, BOEM has undertaken such planning and action as may be necessary to minimize harm from adverse effects on the other five of the twelve identified NHLs in the APE (Block Island Southeast Lighthouse, Bellevue Avenue Historic District, The Breakers, Marble House, and Ocean Drive Historic District) pursuant to 36 CFR 800.10 and NHPA Section 110(f), including the planning and action implemented for NHLs by this MOA; and

WHEREAS, within the range of Project alternatives analyzed in the EIS (EIS Chapter 2, Table 2.1-1), BOEM determined that 101 aboveground historic properties would be subject to visual adverse effects from WTGs (see Attachment 3), no submerged historic properties related to shipwrecks or sunken crafts will be adversely affected by physical disturbance from export cable construction within the avoidance buffers of these resources, nine ASLFs may be potentially adversely affected by physical disturbance in the lease area and from export cable construction, and two historic properties in the terrestrial APE would be adversely affected with implementation of the undertaking; and

WHEREAS, BOEM determined that the implementation of project design and avoidance measures identified in this MOA will avoid adverse effects to 350 aboveground historic properties in the offshore visual APE (including seven NHLs), and to 19 submerged shipwrecks or sunken crafts and to four ASLFs in the marine APE; and

WHEREAS, BOEM determined all of the ASLFs identified in the marine APE are eligible for the National Register of Historic Places (NRHP) under Criteria A and D; and

WHEREAS, under each of the Project alternatives analyzed in the EIS, BOEM determined the Project would visually adversely affect the 101 aboveground historic properties in Massachusetts and Rhode Island, including five NHLs in Rhode Island, and that the visual adverse effect would be cumulative with the potential adverse effects from other reasonably foreseeable offshore wind energy projects; and

WHERAS, BOEM has identified historic sunken military craft (i.e., USS S-51) in the marine APE that are subject to the Sunken Military Craft Act (Public Law 108–375 Title XIV), administered by the Department of the Navy for the protection of these craft and associated remains, BOEM has invited the Department of the Navy to consult on this undertaking and they accepted the invitation, and BOEM and the Department of the Navy will continue to coordinate consultation on the Sunken Military Craft Act through this Section 106 review to ensure compliance with that act; and

WHEREAS, the Connecticut SHPO, Massachusetts SHPO, New York SHPO, and Rhode Island SHPO concurred with BOEM's finding of adverse effect on [insert dates of SHPO's concurrence for the Massachusetts SHPO, Rhode Island SHPO, Connecticut SHPO, and New York SHPO (August 19, 2022); and

WHEREAS, throughout this document the term 'Tribal Nation' has the same meaning as a federally recognized 'Indian Tribe,' as defined at 36 CFR 800.16(m); and

WHEREAS, BOEM invited the following federally recognized Tribal Nations (Tribal Nations) to consult on this Project: Mashpee Wampanoag Tribe, Shinnecock Indian Nation, Mashantucket (Western) Pequot Tribal Nation, Wampanoag Tribe of Gay Head (Aquinnah), Mohegan Tribe of Indians of Connecticut, Narragansett Indian Tribe, Delaware Tribe of Indians, The Delaware Nation; and

WHEREAS, the Mashpee Wampanoag Tribe, Shinnecock Indian Nation, Mashantucket (Western) Pequot Tribal Nation, Wampanoag Tribe of Gay Head (Aquinnah), Narragansett Indian Tribe, Delaware Tribe of Indians, The Delaware Nation accepted BOEM's invitation to consult and BOEM invited these Tribal Nations to sign this MOA as concurring parties; and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited other federal agencies, state and local governments, and additional consulting parties with a demonstrated interest in the undertaking to participate in this consultation, the list of those accepting participation and declining to participate by either written response or no response to direct invitations are listed in Attachment 4; and

WHEREAS, BOEM has consulted with Revolution Wind in its capacity as applicant seeking federal approval of the COP, and, because Revolution Wind has responsibilities under the MOA, BOEM has invited the applicant to be an invited signatory to this MOA; and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), BOEM has notified the ACHP of its adverse effect determination with specified documentation, including adverse effects to the NHLs pursuant to 36 CFR 800.10(b), and ACHP is consulting on the resolution of adverse effects to the historic properties pursuant to 36 CFR 800.6(a)(1)(iii) and 36 CFR 800.10(b); and

WHEREAS, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, Department of the Army permits will be required from the United States Army Corps of Engineers (USACE) for this Project and BOEM invited USACE to consult; and

WHEREAS, the USACE designated BOEM as the Lead Federal Agency pursuant to 36 CFR 800.2(a)(2) to act on its behalf for purposes of compliance with Section 106 for this Project (in a letter dated July 27, 2022), BOEM invited the USACE to sign this MOA as a concurring party, and the USACE accepted the invitation to sign this MOA as a concurring party;

WHEREAS, BOEM has consulted with the signatories, invited signatories, and consulting parties participating in the development of this MOA regarding the delineation of the APEs, the identification and evaluation of historic properties, the assessment of potential effects to the historic properties, and on measures to avoid, minimize, and mitigate adverse effects to historic properties; and

WHEREAS, pursuant to 36 CFR 800.6, BOEM invited Revolution Wind to sign as an invited signatory and the consulting parties as listed in Attachment 4 to sign as concurring parties; however, the refusal of any consulting party to sign this MOA or otherwise concur does not invalidate or affect the effective date of this MOA, and consulting parties who choose not to sign this MOA will continue to receive information if requested and have an opportunity to participate in consultation as specified in this MOA; and

WHEREAS, the signatories agree, consistent with 36 CFR 800.6(b)(2), that adverse effects will be resolved in the manner set forth in this MOA; and

WHEREAS, BOEM requires all on-site actions prescribed for the mitigation at terrestrial archaeological sites and ASLFs to be concluded prior to Project construction or other ground or seafloor disturbing activities proceeding at those sites, not precluding Project construction or ground construction from proceeding off these sites, and not requiring that all mitigation be completed prior to the Project proceeding; and

WHEREAS, BOEM conducted five consulting party meetings, on December 21, 2021, April 8, 2022, September 27, 2033, April 7, 2023, and June 7, 2023; and

WHEREAS, BOEM sought and considered the views of the public regarding Section 106 for this Project through the NEPA process by holding virtual public scoping meetings when initiating the NEPA and NHPA Section 106 review on May 13, 18, and 20, 2021 and in-person and virtual public hearings related to the Draft EIS on September 29 and October 4–6 and 11, 2022; and

WHEREAS, BOEM made the first, redacted Draft MOA available to the public for review and comment from September 2, 2022 to October 17, 2022, and made an updated version of the redacted Draft MOA available to the public using BOEM's Project website, and BOEM did receive comments from the public; and

NOW, THEREFORE, BOEM, the Connecticut SHPO, Massachusetts SHPO, New York SHPO, and Rhode Island SHPO, and the ACHP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

BOEM, with the assistance of Revolution Wind, shall ensure that the following measures are carried out as conditions of its approval of the undertaking:

I. MEASURES TO AVOID ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. BOEM will include the following avoidance measures for adverse effects within the marine APE as conditions of approval of the Revolution Wind COP:

    i. Revolution Wind will avoid the 19 known shipwreck or sunken craft sites and potentially significant debris fields previously identified during marine archaeological surveys (Target-01 to Target-11 and Target-13 to Target-20) by a distance of no less than 164 feet (50 meters) from the known extent of the resource for placement of Project structures and when conducting seafloor-disturbing activities.

    ii. Revolution Wind will avoid ASLFs previously identified during marine archaeological resource assessments for the Project and incorporated avoidance buffering into the mapped ASLF feature boundary. This avoidance will protect ASLFs from the known extent of the resource for placement of Project structures and when conducting seafloor-disturbing activities. Target-27 and Target-31 to Target-33 (four ASLFs) are avoidable and adverse effects to other ASLFs could be avoidable through micrositing or through design options dependent on WTG placement and Project alternative selection. Where the nine other ASLFs cannot be avoided, the mitigation measures at Section III.A will be applied.

B. Visual APE

1. To maintain avoidance of adverse effects on historic properties in the visual APE where BOEM determined no adverse effects or where no effects would occur, BOEM will require Revolution Wind to ensure Project structures are within the BOEM-approved Project design envelope (PDE), sizes, scale, locations, lighting prescription, and distances that BOEM used to inform the definition of APE for the Project and for determining effects in the Finding of Effect (see the Project COP).

2. This measure (i.e., Stipulation I.B.1) will avoid adverse effects on seven of the twelve NHLs in the visual APE (Montauk Point Lighthouse, Original U.S. Naval War College Historic District, Fort Adams Historic District, Battle of Rhode Island Historic District, Nantucket Historic District, New Bedford Historic District, and William Watts Sherman House), through the Project distance and lack of visibility resulting from BOEM conditions of approval for the COP and PDE specifications for sizes, scale, locations, lighting prescription for the Project.

II. MEASURES TO MINIMIZE ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. Should full avoidance not be feasible for nine known ASLFs (Targets 21 through 26 and Targets 28 through 30), Revolution Wind in consultation with BOEM will minimize the extent of project disturbance introduced on these sites. Disturbed portions of ASLFs will be addressed under mitigation measures at MOA Stipulations III. Actions during minimization and mitigation at ASLFs would necessarily require consultation with Tribal Nations.

B. Terrestrial APE

1. Although the [redacted] #1 and [redacted] #2 sites were determined by BOEM to not be avoidable by project disturbance, Revolution Wind will minimize the extent of Project disturbance within these site areas by protecting portions of the site where disturbance can be avoided from Project impacts during construction, operations, maintenance, decommissioning and environmental restoration activities or mitigate those site portions prior to such activities. Protection measures may include fencing the resources or similar means to separate projects activities from the undisturbed site portions. Mitigation is described under Stipulation III, below.

C. Visual APE

1. BOEM has undertaken planning and actions to minimize visual adverse effects to historic properties, including minimizing harm to the five adversely affected NHLs (Block Island Southeast Lighthouse, Bellevue Avenue Historic District, The Breakers, Marble House, and Ocean Drive Historic District). The minimization measures below will minimize visual adverse effects to all adversely affected aboveground historic properties in the visual APE and will minimize the undertaking's cumulative visual adverse effects, that would add to the potential visual adverse effects of other reasonably foreseeable offshore wind energy developments. BOEM will include these minimization measures for adverse effects within the visual APE as conditions of approval of the Revolution Wind COP:

    i. Revolution Wind will use uniform WTG design, speed, height, and rotor diameter to reduce visual contrast and decrease visual clutter.

    ii. Revolution Wind will use uniform spacing of 1 nautical mile (1.15 mile) to decrease visual clutter, aligning WTGs to allow for safe transit corridors.

    iii. The option to reduce the number of constructed WTGs from a maximum proposed number of 100.

    iv. Revolution Wind will apply a paint color to the WTGs no lighter than RAL 9010 pure white and no darker than RAL 7035 light gray to help reduce potential visibility of the turbines against the horizon during daylight hours.

    v. Revolution Wind will implement an aircraft detection lighting system (ADLS) to automatically activate lights when aircraft approach. The WTGs and OSS would be lit and marked in accordance with FAA and USCG lighting standards and consistent with BOEM's *Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development* (April 28, 2021) to reduce light intrusion.

III. MEASURES TO MITIGATE ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. Revolution Wind cannot avoid nine ASLFs (Targets 21 through 26 and Targets 28 through 30). To resolve the adverse effects to the nine ASLFs, BOEM will include the following as conditions of approval of the Revolution Wind COP and require fulfillment of any on-site preconstruction work at these nine ASLFs for the following mitigation measures prior to construction at these ASLFs. Mitigation measures under Stipulation III.A must be completed within four years of MOA execution, unless a different timeline is agreed upon by the

consulting Tribal Nations and SHPO within whose state the mitigation is being performed, accepted by BOEM. Revolution Wind will fund mitigation measures as described in Attachment 5 (Mitigation Funding Amounts Proposed by Signatories and Consulting Parties) and Attachment 6 (Historic Property Treatment Plan [HPTP] for the Revolution Wind Farm Ancient Submerged Landform Feature, Outer Continental Shelf, Federal and Rhode Island Waters of Rhode Island Sound):

i. Preconstruction Geoarchaeology. Revolution Wind will fulfill the following commitments: collaborative review of existing geophysical and geotechnical data with Tribal Nations; selection of coring locations in consultation with Tribal Nations; collection of two to three vibracores within each affected ASLF with a sampling focus on areas that will be disturbed by Project construction activities; written verification to BOEM that the samples collected are sufficient for the planned analyses and consistent with the agreed scope of work; for appropriate samples, collaborative laboratory analyses at a laboratory located in Rhode Island or Massachusetts; screening of recovered sediments for debitage or micro-debitage associated with indigenous land uses; third-party laboratory analyses, that may include but is not limited to a suite of micro- and macro-faunal analyses, micro- and macro-botanical analyses, radiocarbon dating of organic subsamples, and chemical analyses for potential indirect evidence of indigenous occupations, based on the recovered cores and materials; temporary curation of archival core sections; draft reports for review by consulting Tribal Nations and, in state waters, Tribal Nations and RHIHPC); final reporting; and public or professional presentations summarizing the results of the investigations, developed with the consent of the consulting Tribal Nations.

    a. The Preconstruction Geoarchaeology effort will be conducted in accordance with BOEM's Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585. The qualified professional archaeologists leading the research will meet the SOI's professional qualification standards for archeology (62 FR 33708) and BOEM's standards for Qualified Marine Archaeologists.

    b. Revolution Wind will submit the Draft Tribal Audience Report, Draft Technical Report, Final Tribal Audience Report, Final Technical Report, and Draft Public or Professional Presentations to the consulting Tribal Nations and, in state waters, Tribal Nations and RHIHPC for review. Revolution Wind will provide draft descriptions and documentation of the GIS to the consulting Tribal Nations and, in state waters, Tribal Nations and RHIHPC for review and will provide a description of the draft Story Maps to the interested consulting Tribal Nations following the initial working sessions.

ii. Open-Source GIS and Story Maps. Revolution Wind will fulfill the following commitments: consultation with the Tribal Nations to determine the appropriate open-source GIS platform; review of candidate datasets and attributes for inclusion in the GIS; data integration; development of custom reports or queries to assist in future research or tribal maintenance of the GIS; work Sessions with Tribal Nations to develop Story Map content; training session with Tribal Nations to review GIS functionality; review of Draft Story Maps with Tribal Nations; delivery of GIS to Tribal Nations; and delivery of Final Story Maps.

    a. The GIS developed under this measure will be free to use and free to modify by the Tribal Nations. To the extent feasible, all data will be provided in formats

that allow for interoperability with other GIS platforms that the Tribal Nations may use. All datasets incorporated in the GIS will comply with Federal Geographic Data Committee data and metadata standards.

b. Revolution Wind will submit the Description of the GIS with appropriate schema, data organization, and custom reports/queries, Draft Story Map descriptions with details on content, formatting, and intended audiences, and Final Technical Description of the GIS with schema, data organization, and custom reports/queries to the consulting Tribal Nations and, in state waters, Tribal Nations and RHIHPC for review.

B. Terrestrial APE

1. Revolution Wind cannot avoid [redacted] #1 and [redacted] #2 sites by project disturbances. To resolve the adverse effects to the two archaeological sites, BOEM will include the following as conditions of approval of the Revolution Wind COP and require fulfillment of the following as mitigation measures prior to construction. BOEM requires all on-site actions prescribed for the mitigation at archaeological sites (terrestrial and marine) to be concluded prior to Project construction or other ground or seafloor disturbing activities proceed at those sites, not precluding Project construction or ground construction from proceeding off these sites, and not requiring that all mitigation be completed prior to the Project proceeding. Mitigation measures under Stipulation III.B must be completed within four years of MOA execution, unless a different timeline is agreed upon by the consulting Tribal Nations and SHPO within whose state the mitigation is being performed, accepted by BOEM. Revolution Wind will fund mitigation measures as described in Attachment 5 (Mitigation Funding Amounts Proposed by Signatories and Consulting Parties) and Attachment 7 (HPTP for the Revolution Wind Farm, the [redacted] #1 and #2 Sites, Town of North Kingstown, Washington County, Rhode Island):

i. Data Recovery Investigations, Temporary Avoidance Measures, and Ongoing Protection Measures. Revolution Wind will fulfill the following commitments: Submission of the application for Phase III investigations to the Rhode Island SHPO for permit approval prior to execution of the Phase III Data Recovery Program (Attachment 7). Temporary avoidance measures will be implemented prior to construction and will include temporary placement of construction barrier fencing (e.g., snow fencing) to protect the non-impact areas of the two archaeological sites which have been committed to protection and avoidance. Cultural monitoring will occur during construction, as provided for by Revolution Wind, and will include maintaining fencing and monitoring of all ground disturbing work (Attachment 7) within and adjacent to the archaeological sites impact areas. Following Phase III investigations, the preparation of a Historic Property Archaeological Protection Plan will be developed by Revolution Wind to carry over protection measures throughout ongoing Operations and Maintenance for the Project.

a. Revolution Wind will develop the project consistent with the Rhode Island Historical Preservation & Heritage Commission's (RIHPHC) Standards for Archaeological Survey (the *Standards)* and RIHPHC's Performance Standards and Guidelines for Archaeology in Rhode Island (the *Guidelines).*

b. Revolution Wind will submit the Draft Phase III Archaeological Data Recovery Report, Final Phase III Archaeological Data Recovery Report; Draft Archaeological Construction Monitoring Report draft and final; [redacted] 1 and 2 Site Form Updates; and Historic Property Archaeological

Protection Plan draft and final to the consulting Tribal Nations and RHIHPC for review. The reports will be prepared in accordance with the *Standards*.

C. Visual APE

1. BOEM will ensure the following mitigation measures to resolve the adverse effects to historic properties and to minimize harm to NHLs are required as conditions of approval of the Revolution Wind COP and are implemented by Revolution Wind, unless otherwise specified. Those forms of mitigation BOEM has determined effective for treating NHLs are also determined effective in treating other visually impacted historic properties. To mitigate visual and cumulative visual adverse effects to NHLs, TCPs, and other historic properties, BOEM will ensure the implementation of the mitigation measures described in this MOA and the HPTPs attached to this MOA. Where the integrity of historic properties would be diminished by the visual adverse effects and cumulative visual adverse effects of the project, the proposed mitigation measures serve to support other means of conveying the significance of the historic property and to minimize the harm to NHLs, including documentation, interpretation, and dissemination of information and property preservation planning and activities (including repair and stabilization). See Attachment 5 for proposed budgets for each mitigation effort, reflecting good faith estimates, based on the experience of qualified consultants with similar activities and comparable historic properties. Tasks associated with the mitigation of visual adverse effects can occur during and/or after Project construction. Mitigation measures under III.C must be completed within five years of MOA execution, unless a different timeline is agreed upon by the SHPO within whose state the mitigation is being performed, accepted by BOEM. Tasks may be completed simultaneously, as applicable. Revolution Wind will fund mitigation measures in accordance with Attachment 5 and pursuant to the following measures under III.C.

2. Traditional Cultural Properties (TCPs).

   i. [redacted] Traditional Cultural Property. BOEM will include the following as described in Attachment 8 (Historic Properties Treatment Plan for the Revolution Wind Farm: the [redacted] Traditional Cultural Property [redacted] Massachusetts & Atlantic Outer Continental Shelf) as conditions of approval of the Revolution Wind COP. Revolution Wind will fund and commence the following prior to initiation of construction of any offshore project elements on the OCS included as part of this undertaking.

      a. GIS Database of Contributing Resources to the TCP

         1) Revolution Wind will fund the development of a GIS database incorporating the results of on-going documentation of the TCP and will include information on existing conditions at each contributing resource and/or significant element of the TCP district as described in Attachment 8.

         2) Revolution Wind will have the documentation developed by professionals meeting the qualifications specified in the SOI's Professional Qualifications Standards (36 CFR Part 61). The GIS will be developed by professionals with demonstrated experience in the creation and organization of spatial databases of cultural resources and the relevant and specific attributes necessary for recordation and management. The GIS development will be overseen by a qualified Geographic Information Systems Professional

3) Revolution Wind will submit the Request for Proposal (RFP), proposals by qualified consultants in response to the RFP, preliminary draft of the exhibit, and final exhibit to the consulting Tribal Nations and MHC for review.

b. Development of Interpretative Materials

1) Revolution Wind will fund the development of GIS story maps or comparable presentations that could include relevant archival data, oral histories, news stories, video footage, and public domain datasets [redacted] as described in Attachment 8.

2) Revolution Wind will have the documentation developed by a qualified Geographic Information Systems Professional

3) Revolution Wind will submit a RFP, proposals by qualified consultants in response to the RFP, draft deliverables, and final deliverables to the consulting Tribal Nations and MHC for review.

c. Climate Adaptation Planning Study

1) Revolution Wind will fund the development of a Climate Adaptation Plan that is focused on the specific resources and characteristics of the [redacted] and needs of the associated traditional community as described in Attachment 8.

2) Revolution Wind will have the documentation developed by qualified professionals with Global Association of Risk Professionals' Sustainability and Climate Risk certification and/or demonstrated experience in the preparation of climate change risk assessments for municipal, state, or federal governments.

3) Revolution Wind will submit the RFP, proposals by qualified consultants in response to the RFP, draft plan, and final plan to the consulting Tribal Nations and MHC for review.

ii. [redacted] Traditional Cultural Property. BOEM will include the following as described in Attachments 9 and 10 [redacted] Traditional Cultural Property [redacted] Massachusetts & Atlantic Outer Continental Shelf for federal Tribal Nations and non-federal Tribes) as conditions of approval of the Revolution Wind COP. Revolution Wind will fund and commence the following prior to initiation of construction of any offshore project elements on the OCS included as part of this undertaking.

a. Support for [redacted]

1) Revolution Wind will support the identification of appropriate printed and/or digital media for interpretative exhibits; archival research on the history, development, and historical/cultural significance of [redacted] design and production of draft and final interpretive materials; and consultation, meetings, and discussions including the [redacted] on these matters.

2) Revolution Wind will submit the RFP, consultant bids in response to the RFP, draft deliverables, and final deliverables to the consulting Tribal Nations and MHC for review.

b. Scholarships and Training for [redacted] Resource Stewardship

1) Revolution Wind will fund scholarships and fees for professional training or certification programs in the fields of Astronomy, Archaeology or Anthropology, Marine Sciences, Aquaculture, Marine Fisheries, Marine Construction, Native American Studies, Ethnohistory, History, Biology, and related fields as described in Attachments 9 and 10.

2) Revolution Wind will have the documentation prepared by professionals with demonstrated experience in education and training program management and fiscal reporting.

3) Revolution Wind will submit the RFP, consultant bids in response to the RFP, executed contracts between the implementing party and selected consultants, draft Scholarship Program Proposal, and final Scholarship Program Proposal to the consulting Tribal Nations and MHC for review.

c. Coastal Resilience and Habitat Restoration

1) Revolution Wind will provide funding for planning and implementation of targeted efforts to mitigate future losses of character defining features and contributing resources for the TCP, support economically sustainable [redacted] practices, and documentation and/or recover of threatened elements of cultural sites associated with the TCP as described in Attachments 9 and 10.

2) Revolution Wind will have the documentation prepared by professionals with demonstrated experience in archaeology, habitat restoration, coastal resilience planning program management and fiscal reporting, as appropriate to the specific funded activities. All archaeological surveys or other subsurface terrestrial investigations on any land owned or controlled by the Commonwealth of Massachusetts, its agencies or political subdivisions or on any historical or archeological landmarks or on any lands restricted by Massachusetts General Law (MGL) c. 184, § 31 will be conducted in accordance with MHC regulations (950 CMR 70).

3) Revolution Wind will submit the RFP, consultant bids in response to the RFP, draft deliverables, and final deliverables to the consulting Tribal Nations and MHC for review.

d. Archaeological and Cultural Sites Data Compilation

1) Revolution Wind will fund updated inventories of archaeological and cultural resource data pertaining to the TCP and the preparation of updated historic contexts for the interpretation of such resources as described in Attachments 9 and 10.

2) Revolution Wind will have the updated inventory prepared by professionals meeting the SOI's professional qualification standards in archeology and/or

history (36 CFR 60) and in direct consultation with each participating Tribal Nation.

3) Revolution Wind will submit the RFP, consultant bids in response to the RFP, draft and final historic context(s) and MHC inventory forms; and open-source GIS database to the consulting Tribal Nations and MHC for review.

e. Maritime Cultural Landscapes & Interconnected Contexts

1) Revolution Wind will fund a publicly-available and inclusive synthesis of information and knowledge about the maritime cultural landscapes along the shores, coastal islands, and waters of southern New England and Long Island as described in Attachments 9 and 10.

2) Revolution Wind will have the documentation prepared by professionals meeting the SOI's professional qualification standards in cultural anthropology, archeology, and/or history (36 CFR 60) and in direct consultation with each of the consulting Tribal Nation's Tribal Historic Preservation Office or other designated tribal representative.

3) Revolution Wind will submit the RFP, consultant bids in response to the RFP, draft and final reports, and open-source GIS database to the consulting Tribal Nations and MHC for review.

3. Rhode Island National Historic Landmarks and Historic Property Documentation Mitigation Measures.

i. BOEM will include the following as described in Attachment 11 (Historic Property Treatment Plan for the Revolution Wind Farm: Documentation of Twenty-Six Historic Properties in Rhode Island) as conditions of approval of the Revolution Wind COP.

a. The HPTP at Attachment 11 provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions in the resolution of adverse effects from the Revolution Wind Project for the following NHLs and historic properties in addition to any mitigation fund actions that could further be applied to mitigating adverse effects for some or all these NHLs and historic properties under III.C.6:

1) Abbott Phillips House, Little Compton
2) Warren Point Historic District, Little Compton
3) Tunipus Goosewing Farm, Little Compton
4) Fort Varnum/Camp Varnum, Narragansett
5) Narragansett Pier MRA, Narragansett
6) Life Saving Station at Narragansett Pier, Narragansett
7) The Towers Historic District, Narragansett
8) The Towers/Tower Entrance of Narragansett Casino, Narragansett
9) Dunmere, Narragansett
10) Ocean Road Historic District, Narragansett
11) Champlain Farm Historic District, New Shoreham
12) Mitchell Farm Historic District, New Shoreham
13) Beacon Hill Historic District, New Shoreham
14) Lewis-Dickens Farm Historic District, New Shoreham
15) Lakeside Drive and Mitchell Lane Historic District, New Shoreham

16) Indian Head Neck Road Historic District, New Shoreham
17) Beach Avenue Historic District, New Shoreham
18) Old Town and Center Roads Historic District, New Shoreham
19) Corn Neck Road Historic District, New Shoreham
20) Pilot Hill Road and Seaweed Lane Historic District, New Shoreham
21) New Shoreham Historic District, New Shoreham
22) Ochre Point-Cliffs Historic District, Newport
23) Ocean Drive Historic District NHL, Newport
24) Bellevue Avenue Historic District NHL, Newport
25) Brownings Beach Historic District, South Kingstown
26) Puncatest Neck Historic District, Tiverton

b. National Historic Landmark and National Register of Historic Places nomination updates for historic districts in Newport

1) Update the existing nomination information for the Bellevue Avenue Historic District, Newport.

2) Update the existing nomination information for the Ocean Drive Historic District, Newport.

3) Update the existing nomination information for the Ochre Point-Cliffs Historic District, Newport.

c. Complete New National Register of Historic Places Nomination Documentation

1) In Little Compton at the following historic properties: Abbott Phillips House, Warren Point Historic District, Tunipus Goosewing Farm.

2) In New Shoreham at the following historic properties: West Side Road South, West Side Road North, Beacon Hill, African American Settlement, Lewis-Dickens Farm, Lakeside Drive and Mitchell Lane, Indian Head Neck Road, Beach Avenue, Old Town and Center Roads, Corn Neck Road, Pilot Hill Road and Seaweed Land, and New Shoreham Historic District.

d. New and updated historic property surveys

1) Update the previous *Historic and Architectural Resources of Narragansett, Rhode Island*.

2) Complete intensive-level surveys of the Matunuck and Green Hill neighborhoods in South Kingston.

e. Preparation of the National Historic Landmark and Historic Property Documentation

1) For the nomination form and survey documentation, Revolution Wind will review any previous nomination forms for a historic property or NHL; research other available historic sources and documentation; conduct field and condition assessments and NRHP-eligibility analysis; provide annotated photographs; draft the nomination forms; submit draft documents for review and comment to the RI SHPO, the participating municipal government, historical commission or organization, and, if requested, to the owners of the

historic property or properties; and develop final nomination documents to be provided to RI SHPO, the participating municipal government, historical commission or organization, and, if requested, to the owners of the historic property or properties. Final updates and new NHL and NRHP documents will be submitted by Revolution Wind to RI SHPO and other participating parties for their files and use. Revolution Wind is not responsible for submitting documents for historic property or NHL nominations or updates to RIHPHC's State Review Board or the NPS.

2) Revolution Wind will have the documentation prepared by professionals meeting the SOI's professional qualification standards in archeology and/or history (36 CFR 60) and in consultation with RI SHPO. Documentation will comply with the applicable standards of the SOI's *Guidance on the Identification of Historic Properties* (36 CFR 800.4); NPS's *National Register Bulletin 15: How to Apply the National Register Criteria* for *Evaluation*; NPS's *National Register Bulletin 16a: How to Complete the National Register Registration Form*; and RIHPHC *Standards* and *Guidelines*.

3) Revolution Wind will submit a RFP, proposals by qualified consultants in response to the RFP, draft updated historic property inventory if required, final updated historic property inventory if required, draft report to the RI SHPO and participating (if any) municipal government and historical commission or organization for review.

4. Town of Middletown historic property mitigation.

   i. BOEM will apply the following mitigation measures described in Attachment 12 (Historic Properties Treatment Plan for the Revolution Wind Farm: Nine Historic Properties, Town of Middletown, Newport County, Rhode Island) as conditions of approval of the Revolution Wind COP. The nine historic properties include the Bailey Farm, Clambake Club of Newport, Paradise Rocks Historic District, Sea View Villa, St. Georges School, Indian Avenue Historic District, Whetstone, Land Trust Cottages, and the Bluff/John Bancroft Estate. To resolve adverse effects, Revolution Wind will fund and implement the following mitigation measures.

      a. Support on-going maintenance and aesthetic improvements to the Third Beach Road and Hanging Rocks Road through stone wall preservation and observation trails within the Paradise Rocks Historic District.

         1) Revolution Wind will provide funding for the proposed stone wall preservation and for preparing interpretive information to provide the Town, its community, and SHPO with improved experience of local history and historical sites.

         2) This will include Revolution Wind reviewing current Town of Middletown Charter and Code of Ordinances; reviewing existing planning documents, guidance, and regulations; existing photographs and documents of present conditions of stone walls; developing draft and final plan (including drawings, if necessary), to be distributed to the RI SHPO, the Town of Middleton, Norman Bird Sanctuary and other property owners for review and comment; and soliciting public engagement to discuss preservation priorities;

3) Develop draft and final reports on these actions to be distributed to RI SHPO, the Town of Middleton, Norman Bird Sanctuary and other property owners.

4) Revolution Wind will develop the project consistent with Town of Middletown Charter and Code of Ordinances and the SOI's Standards for the Treatment of Historic Properties (36 CFR 68).

5) Revolution Wind will submit a RFP, proposals by qualified consultants in response to the RFP, draft updated historic property inventory if required, final updated historic property inventory if required, draft report to the RI SHPO, the Town of Middleton, Norman Bird Sanctuary, and other property owners.

b. Update the previous *Historic and Architectural Resources of Middletown, Rhode Island: A Preliminary Report.*

1) Revolution Wind will provide funding to update this report to provide the Town, its community, and SHPO with additional information on local history.

2) Revolution Wind will review the existing Historic and Architectural Resources of Middletown, Rhode Island: A Preliminary Report and existing historic property documentation available at local repositories and the RIHPHC files; develop a methodology for completion of the survey to be distributed to RI SHPO, Rhode Island Historical Society, Town of Middletown, Norman Bird Sanctuary, Clambake Club of Newport, and any other participating property owners for review and comment; complete the survey per the RI SHPO-approved methodology; develop draft and final survey reports to be distributed to RI SHPO, Rhode Island Historical Society, Town of Middletown, Norman Bird Sanctuary, Clambake Club of Newport, and any other participating property owners for review and comment; and address any comments received for distribution with the final document(s) to these participating parties.

3) Revolution Wind will develop the project consistent with SHPO *Standards* and *Guidelines* and SOI reporting standards in the SOI's Guidance on the Identification of Historic Properties (36 CFR 800.4); and the SOI Professional Qualifications Standards (36 CFR Part 61), as applicable.

4) Revolution Wind will submit a RFP, proposals by qualified consultants in response to the RFP, draft updated historic property inventory if required, final updated historic property inventory if required, draft report to the RI SHPO, Rhode Island Historical Society, Town of Middletown, Norman Bird Sanctuary, and Clambake Club of Newport for review.

5. Town of Aquinnah historic property mitigation.

i. BOEM will include the following as described in Attachment 13 (Historic Properties Treatment Plan for the Revolution Wind Farm, Nine Historic Properties, Town of Aquinnah, Dukes County, Massachusetts) as conditions of approval of the Revolution Wind COP. These nine properties consist of 71 Moshup Trail, Leonard Vanderhoop House, Edwin DeVries Vanderhoop Homestead, Tom Cooper House, Theodore Haskins House, 3 Windy Hill Drive, Gay Head – Aquinnah Town Center Historic District, Gay Head – Aquinnah Shops, Gay Head – Aquinnah Coast Guard Station Barracks. To

resolve adverse effects, Revolution Wind will fund and implement the following mitigation measures.

a. Funding for Weatherization Improvements to the Edwin D. Vanderhoop Homestead, which houses the Aquinnah Cultural Center.

1) Revolution Wind will fund energy efficiency improvements to the Edwin D. Vanderhoop Homestead to help to increase the energy efficiency and to help ensure the long-term preservation of this historic property as described in Attachment 13. Mitigation funds are being sought by the Town of Aquinnah for historically appropriate weatherization of this building to preserve and protect each element of this irreplaceable local venue and its contents.

2) Revolution Wind will develop the project consistent with the Town of Aquinnah Building Code, as applicable; the Town of Aquinnah Energy and Climate Committee guidance, as applicable; the SOI's Standards for Rehabilitation (36 CFR 67.7); and National Park Service's Improving Energy Efficiency in Historic Buildings Preservation Brief 3.

3) Revolution Wind will submit a RFP, proposals by qualified consultants in response to the RFP, preliminary draft plans and specifications, final plans and specifications, and as-built documentation including photographs to the MHC, Dukes County, Town of Aquinnah, and Wampanoag Tribe of Gay Head (Aquinnah) for review.

b. Complete Identified Needs from the Americans with Disabilities Act (ADA) Compliance Plan.

1) Revolution Wind will fund and complete the next phase of work identified in the proposed ADA Compliance Plan for the Aquinnah Circle and the Gay Head – Aquinnah Shops Area to ensure all visitors are able to access and enjoy the Gay Head – Aquinnah Shops as described in Attachment 13. To improve and expand access, Revolution Wind will fund the construction. The intent is to support establishment of fully ADA Compliant access to the Cliffs, shops, and Overlook Park, including replacement of the existing stairs, ramp access and appropriate pathways to and from other parts of the Circle.

2) Revolution Wind will develop the project consistent with Town of Aquinnah, MA Building Code, as applicable; Martha's Vineyard regulations; Commission's planning guidance, as applicable; ADA; the Massachusetts Office on Disability Guidelines as applicable; and the SOI's Standards and Guidelines for Rehabilitation (36 CFR 68).

3) Revolution Wind will submit photographs and documentation of existing conditions, a RFP, proposals by qualified consultants in response to the RFP, preliminary draft of the construction plans including schedule, cost, and specifications, and final construction plan to the MHC, Dukes County, Town of Aquinnah, and Wampanoag Tribe of Gay Head (Aquinnah) for review.

ii. Town of Aquinnah, Dukes County, Massachusetts*: The Gay Head Lighthouse*. BOEM will include the following as described in Attachment 14 (Historic Properties Treatment Plan for the Revolution Wind Farm: The Gay Head Lighthouse, Town of Aquinnah, Dukes County, Massachusetts) as conditions of approval of the Revolution Wind COP.

Revolution Wind will fund and commence the following based on funds from and the consultation described under Section III.C.3.

a. Historic Rehabilitation of the Gay Head Lighthouse

1) Revolution Wind will contribute funds (see Attachment 5) and provide contracting support to the Town of Aquinnah for the next phase of rehabilitation at the Gay Head Lighthouse to ensure the long-term preservation of the lighthouse by completing physical repairs and/or rehabilitation of the historic building materials as described in Attachment 14, consulting with the Gay Head Light Advisory Committee throughout the process. This repair and/or restoration will prioritize restoration of the curtain wall pursuant to the ICC Commonwealth Corporation Report of December 2021 Inspection Gay Head Lighthouse Aquinnah, MA dated April 13, 2022.

2) Revolution Wind will develop the project consistent with the Town of Aquinnah, MA Building Code; Martha's Vineyard Commission planning guidance, as applicable; Preservation Restriction (MGL Chapter 184, Section 31-33); United States Coast Guard Aid to Navigation (ATON) Access Easement (U. S. Department of Homeland Security and U. S. Coast Guard, 2005); Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character; Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings; National Register Bulletin 34: Guidelines for Evaluating and Documenting Historic Aids to Navigation; Historic Lighthouse Preservation Handbook; IALA-AISM Lighthouse Conservation Manual; Preservation Restriction (RIGL Title 42, Section 42-45-9); the SOI's Standards for Treatment of Historic Properties (36 CFR 68); the SOI Professional Qualifications Standards (36 CFR Part 61), as applicable; the SOI's Standards for Treatment of Historic Properties (36 CFR 68); and the SOI's Professional Qualifications Standards (36 CFR Part 61), as applicable. The Gay Head Lighthouse Advisory Committee will be given the opportunity to review the demonstrated experience and qualifications of all bidders in regard to their work on similar lighthouse restoration projects.

3) At such time as the Town of Aquinnah notifies Revolution Wind that sufficient funds are available for the defined scope of repair and/or restoration, Revolution Wind will submit proposed scopes of work including draft text, project plans, and design specifications; photographic and written documentation of existing conditions (prior to repair or restoration work); draft specifications and construction drawings; final Specifications and construction drawings; progress reports; and a Summary Report of the work completed to the MHC, Dukes County, and Town of Aquinnah, Gay Head Lighthouse Advisory Committee, and Wampanoag Tribe of Gay Head (Aquinnah) for review.

6. Mitigation Fund
   i. Fund Establishment. BOEM will require Revolution Wind to establish and contribute funds to a mitigation fund to resolve visual adverse effects to the historic properties, above-ground NHLs and historic properties in Rhode Island and Massachusetts, listed below (in no specific order).

1) Block Island Southeast Lighthouse NHL
2) Bellevue Avenue Historic District NHL
3) The Breakers NHL
4) Marble House NHL
5) Ocean Drive Historic District NHL
6) Ochre Point - Cliffs Historic District
7) Kay St.-Catherine St.-Old Beach Rd. Historic District / The Hill
8) Horsehead/Marbella
9) Brownings Beach Historic District
10) Puncatest Neck Historic District
11) Island Cemetery/Old Burial Ground
12) New Shoreham Historic District
13) Old Harbor Historic District
14) Captain Mark L. Potter House
15) Spring Cottage
16) Spring House Hotel
17) Spring Street Historic District
18) WWII Lookout Tower – Spring Street
19) Caleb W. Dodge Jr. House
20) Captain Noah Dodge
21) Captain Welcome Dodge Sr.
22) Pilot Hill Road and Seaweed Lane
23) WWII Lookout Tower at Sands Pond
24) Mohegan Cottage
25) Lewis-Dickens Farm
26) Miss Abby E. Vaill/1 of 2 Vaill cottages
27) Hon. Julius Deming Perkins/"Bayberry Lodge"
28) West Side and Grace Cove Roads
29) Peleg Champlin House
30) Lakeside Drive and Mitchell Lane
31) African American Settlement
32) Nathan Mott Park
33) Champlin Farm
34) Old Town and Center Roads
35) Beacon Hill
36) Beach Avenue
37) Indian Head Neck Road
38) Corn Neck Road
39) Hippocampus/Boy's camp/Beane Family
40) Mitchell Farm
41) U.S. Coast Guard Brick House
42) US Lifesaving Station
43) US Weather Bureau Station
44) Hygeia House
45) Sakonnet Light Station
46) Block Island North Lighthouse
47) Point Judith Lighthouse
48) Beavertail Light
49) Tarpaulin Cove Light Clark's Point Light
50) Butler Flats Light Station
51) Nobska Point Lighthouse

52) Captain Samuel Hancock – Captain Mitchell West House
53) Russell Hancock House
54) Ernest Flanders House, Shop, Barn
55) Simon Mayhew House
56) Flaghole
57) Salters Point
58) 744 Sconticut Neck Road
59) Scrubby Neck Schoolhouse
60) Gooseberry Neck Observation Towers
61) Gooseneck Causeway
62) Westport Harbor
63) Horseneck Point Lifesaving Station
64) Clam Shack Restaurant
65) Westport Point Historic District
66) Westport Point Revolutionary War Properties
67) Westport Point Historic District

ii. Fund Establishment. BOEM will require the Revolution Wind to establish a mitigation fund to resolve visual adverse effects to historic properties from the Project, including five NHLs. Attachment 5 provides a basis for the total funding amounts, based on input of qualified consultants with experience fulfilling activities similar to those that can be funded through the mitigation fund and for historic properties comparable to those adversely effected by the Project.

iii. Fund Amount and Application to Mitigation of Adverse Effects. In order to mitigate the Project's adverse visual impacts to historic properties, Revolution Wind must provide the total amount of $3,873,000 of funding in support of historic preservation and public interpretive and commemorative activities; see Attachment 5. The measures listed in Attachment 5 were proposed or based on proposals by consulting parties and included in draft documents BOEM circulated to consulting parties and included in Appendix J to the Project EIS. BOEM continues to believe that these measures are appropriate to fully address the nature, scope, size, and magnitude of adverse effects including cumulative effects caused by the Project, NRHP-qualifying characteristics of each historic property that would be affected, and the heightened significance and concerns of the NHLs. In the specific context of this undertaking, including the numerous privately owned properties involved, the signatories agree that it is appropriate to provide flexibility to implement these or other specific activities for preservation, interpretation, and commemoration to mitigate adverse effects to historic properties, and the signatories agree that the level of funding identified in Attachment 5 is appropriate.

iv. Depositing the Fund and the Allocation of Funds through Grants. Within 120 days of Revolution Wind of receiving a no objection to the complete Facility Design Report/Fabrication and Installation Report, Revolution Wind must pay half the total funding amount, $1,936,500, to an escrow account. Within 1 year of the first payment, Revolution will place another $1,936,500 into that escrow account. Those payments will be deposited into a fund to be drawn from by a third-party administrator for the purpose of providing grants until the fund balance is expended. Revolution Wind's deposit of such funds into this mitigation fund will satisfy Revolution Wind's obligations as it relates to mitigation for adverse visual impacts to the historic properties listed in Stipulation III.C.1, unless additional consultation is required in the event of unallocated funds, as described below. These grants are to support mitigation activities for the

preservation, interpretation, or commemoration of historic sites, buildings, or events. Grants will be awarded for the long-term protection, preservation, and commemoration of adversely affected historical properties in the following order of preference. Grants must first be awarded to the historic properties listed in Stipulation III.C.3.i. If after 3 years from the date the administrator begins accepting grant applications there are funds still unapplied, then grants should be awarded for alternative mitigation options for adversely affected historic property identified in Attachment 5.

v. Unallocated Funds. If after five years from the date the administrator begins accepting applications any funds are unallocated, then BOEM will consult with the consulting parties on appropriate use of the remaining funds to resolve adverse effects. The signatories agree that the existence of unapplied funds does not constitute a breach of this agreement.

vi. Fund Administrator Selection. BOEM and Revolution Wind will identify, within 1 year of execution of this MOA, an appropriate non-profit or governmental historic preservation organization, such as [TBD] or another similarly situated entity, to administer the fund and the funded activities, to ensure the effectiveness of these activities as mitigation for the undertaking's adverse effect to the historic properties. BOEM and Revolution Wind will consult on the selection of this fund administrator with the consulting parties and the administrator must be acceptable to BOEM. BOEM will invite the selected third-party administrator to sign the MOA as an invited signatory, and the addition of this invited signatory will not require an amendment to this MOA unless changes are proposed to this mitigation fund at Stipulation III.C.6. The same consultation process would be followed in the case of replacement of a fund administrator, if needed.

vii. Fund Administration and Monitoring. BOEM will consult with the third-party administrator and the SHPO in the respective state where funding would be applied, prior to allowing the third-party administrator to issue any grants. The third-party administrator's fees and administrative costs will be paid from the fund and must not exceed 6 percent of the fund amount. BOEM with the assistance of the third-party administrator must ensure, through the annual reporting process (see Stipulation XI), that all granted funds are used exclusively for the purposes described in Stipulation III.C.6 for direct costs of preservation, interpretation, or commemoration of the historic properties adversely affected by the Project. The mitigation fund administrator must prohibit the use of grant funds for indirect costs, such as accountant fees, employee salary or benefits, or legal fees.

viii. Mitigation Fund Operating Procedures and Reporting. BOEM will consult with the third-party administrator to develop operating procedures for the mitigation fund, and BOEM will review and approve the final operating procedures. BOEM will ensure that the third-party administrator has procedures under which it will provide a copy of all grants made and an annual report on expenditure of funds and activities to BOEM, SHPO, and Revolution Wind. Revolution Wind will summarize the third-party administrator's annual report to describe funded mitigation activities, progress, completion, and outcomes in the annual report per Stipulation XI, with sufficient detail for BOEM to ensure that the mitigation is being implemented according to this section (III.C.6).

ix. Grant-supported Mitigation Standards. BOEM will ensure that the operating procedures include the following, where applicable.

a. In such cases where Historic Architectural Building Survey (HABS) documentation and HABS-like documentation mitigation would be implemented, the grantee shall first consult with the historic property owner to identify photographic documentation specifications.

b. Where Historic Structure Report mitigation is included within a grant, the documentation shall be prepared in accordance with the *Historic Structure Reports and Preservation Plans: A Preparation Guide – Second Edition*, as may be amended, and the project team must include an individual meeting the SOI's professional qualifications standards for historic architecture.

c. Where funding for visitor experience, public access, climate resiliency, or comparable actions would be granted, all projects must meet the SOI's standards for the Treatment of Historic Properties and these projects should not constitute adverse effects themselves on the historic properties.

d. Consistent with NHPA Section 110(f) and as described in EIS Appendix J, the Finding of Effect, BOEM has undertaking planning and actions as may be necessary to minimize harm to NHLs. The mitigation funding for NHLs under this MOA does not replace any other planning and actions BOEM has taken to comply with that statutory requirement.

IV. PROJECT MODIFICATIONS

A. If Revolution Wind proposes any modifications to the Project that expands the Project beyond the Project Design Envelope included in the COP and/or occurs outside the defined APEs or the proposed modifications change BOEM's final Section 106 determinations and findings for this Project, Revolution Wind shall notify and provide BOEM with information concerning the proposed modifications. BOEM will determine if these modifications require alteration of the conclusions reached in the Finding of Effect and, thus, will require additional consultation with the signatories, invited signatories and consulting parties. If BOEM determines additional consultation is required, Revolution Wind will provide the signatories, invited signatories, and consulting parties with the information concerning the proposed changes, and they will have 30 calendar days from receipt of this information to comment on the proposed changes. BOEM shall take into account any comments from signatories, invited signatories, and consulting parties prior to agreeing to any proposed changes. Using the procedure below, BOEM will, as necessary, consult with the signatories, invited signatories, and consulting parties to identify and evaluate historic properties in any newly affected areas, assess the effects of the modification, and resolve any adverse effects.

1. If the Project is modified and BOEM identifies no additional historic properties or determines that no historic properties are adversely affected due to the modification, BOEM, with the assistance of Revolution Wind, will notify and consult with the signatories, invited signatories, and consulting parties following the consultation process set forth in this Stipulation IV.A.1.

    i. Revolution Wind will notify all the signatories, invited signatories, and consulting parties about this proposed change and BOEM's determination by providing a written summary of the project modification including any maps, a summary of any additional surveys and/or research conducted to identify historic properties and assess effects, and copies of the surveys.

ii. BOEM and Revolution Wind will allow the signatories, invited signatories, and consulting parties 30 calendar days to review and comment on the proposed change, BOEM's determination, and the documents.

iii. After the 30-calendar review period has concluded and no comments require additional consultation, Revolution Wind will notify the signatories and consulting parties that BOEM has approved the project modification and, if they received any comments, provide a summary of the comments and BOEM's responses.

iv. BOEM, with the assistance of Revolution Wind, will conduct any consultation meetings if requested by the signatories or consulting parties.

v. This MOA will not need to be amended if no additional historic properties are identified and/or adversely affected.

2. If BOEM determines new adverse effects to historic properties will occur due to a Project modification, BOEM with the assistance of Revolution Wind will notify and consult with the signatories, invited signatories, and consulting parties regarding BOEM's finding and the proposed measures to resolve the adverse effect(s) including the development of a new treatment plan(s) following the consultation process set forth in this Stipulation IV.A. 2.

i. Revolution Wind will notify all signatories, invited signatories, and consulting parties about this proposed modification, BOEM's determination, and the proposed resolution measures for the adverse effect(s).

ii. The signatories, invited signatories, and consulting parties will have 30 calendar days to review and comment on the adverse effect finding and the proposed resolution of adverse effect(s), including a draft treatment plan(s).

iii. BOEM, with the assistance of Revolution Wind, will conduct additional consultation meetings, if necessary, during consultation on the adverse effect finding and during drafting and finalization of the treatment plan(s).

iv. BOEM, with the assistance of Revolution Wind, will respond to the comments and make necessary edits to the documents.

v. Revolution Wind will send the revised draft final documents to the other signatories, invited signatories, and consulting parties for review and comment during a 30-calendar day review and comment period. With this same submittal of draft final documents, Revolution Wind will provide a summary of all the comments received on the documents and BOEM's responses.

vi. BOEM, with the assistance of Revolution Wind, will respond to the comments on the draft final documents and make necessary edits to the documents.

vii. Revolution Wind will notify all the signatories, invited signatories, and consulting parties that BOEM has approved the project modification and will provide the final document(s) including the final treatment plan(s) and a summary of comments and BOEM's responses to comments, if they receive any on the draft final documents, after BOEM has received concurrence from the appropriate SHPO(s) on the finding of new adverse effect(s), BOEM has accepted the final treatment plan(s), and BOEM has approved the Project modification.

viii. The MOA will not need to be amended under Section XIII, after the treatment plan(s) is accepted by BOEM, for the treatment plan to become part of the MOA requirements.

3. If any of the signatories, invited signatories, or consulting parties object to determinations, findings, or resolutions made pursuant to these measures (Stipulation IV.A.1 and 2), BOEM will resolve any such objections pursuant to the dispute resolution process set forth in Stipulation XI.

V. REVIEW PROCESS FOR DOCUMENTS PRODUCED UNDER MOA STIPULATIONS

A. The following process will be used for any document, report, or plan produced in accordance with Stipulations I through IV of this MOA:

1. Draft Document

i. Revolution Wind shall provide the document to BOEM for technical review and approval

a. BOEM has 15 calendar days to complete its technical review.

b. If BOEM does not provide approval, it shall submit its comments back to Revolution Wind, who will have 15 calendar days to address the comments.

ii. BOEM, with the assistance of Revolution Wind, shall provide the draft document to consulting parties, except the ACHP, for review and comment.

a. Consulting parties shall have 30 calendar days to review and comment.

b. BOEM, with the assistance of Revolution Wind, shall coordinate a meeting with consulting parties to facilitate comments on the document if requested by a consulting party.

c. BOEM shall consolidate comments received and provide them to Revolution Wind within 15 calendar days of receiving comments from consulting parties.

2. Draft Final Document

i. Revolution Wind shall provide BOEM with the draft final document and response to consulting party comments for technical review and approval

a. BOEM has 15 calendar days to complete its technical review.

b. If BOEM does not provide approval, it shall submit its comments back to Revolution Wind, who will have 15 calendar days to address the comments.

ii. BOEM, with the assistance of Revolution Wind, shall provide the draft final document and response to previous comments to consulting parties, except the ACHP, for review and comment

a. Consulting parties have 30 calendar days to review and comment.

b. BOEM, with the assistance of Revolution Wind, shall coordinate a meeting with consulting parties to facilitate comments on the document if requested by a consulting party.

c. BOEM shall consolidate comments received and provide them to Revolution Wind within 15 calendar days of receiving comments from consulting parties.

3. Final Document

i. Revolution Wind shall provide BOEM with the final document and response to consulting party comments for approval.

a. BOEM has 15 calendar days to complete its technical review.

b. If BOEM does not provide approval, it shall submit its comments back to Revolution Wind, who will have 15 calendar days to address the comments.

c. BOEM, with the assistance of Revolution Wind, shall provide the final document and responses to previous comments to consulting parties, except the ACHP, within 30 calendar days of approving the final document.

VI. SUBMISSION OF DOCUMENTS

A. Connecticut and New York, SHPOs, ACHP, NPS, Tribal Nations, and Consulting Parties.

1. All submittals to the Rhode Island, New York, and Connecticut SHPOs, ACHP, NPS, Tribal Nations, and consulting parties will be submitted electronically unless a specific request is made for the submittal be provided in paper format.

2. Rhode Island and Massachusetts SHPOs:

i. All submittals to the Massachusetts SHPO, if required for any HPTP, will be in paper format and delivered by U.S. Mail, delivery service, or by hand.

ii. Plans and specifications submitted to the Massachusetts SHPO, if required for any HPTP, must measure no larger than 11- x 17-inch paper format (unless another format is agreed to in consultation); therefore, all documents produced that will be submitted to Massachusetts SHPO under this MOA, must meet this format.

VII. CURATION

A. Collections from federal lands or the OCS:

1. Any archaeological materials removed from federal lands or the OCS as a result of the actions required by this MOA shall be curated in accordance with 36 CFR 79, "Curation of Federally Owned and Administered Archaeological Collections," ACHP's "Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites" published in the Federal Register (64 Fed. Reg. 27085-27087 (May 18, 1999)), or other provisions agreed to by the consulting parties and following applicable State guidelines. No excavation should be initiated before acceptance and approval of a curation plan, which will be included by Revolution Wind in the application for Phase III investigations to the RI SHPO for permit approval for Phase III Data Recovery Program specified in Section B.1.i.

B. Collections from state, local government, and private lands:

1. Archaeological materials from state or local government lands in the APE and the records and documentation associated with these materials shall be curated within the state of their origin at a repository preferred by the SHPO, or an approved and certified repository, in accordance with the standards and guidelines required by the state. Lands as described here

may include the seafloor in state waters. The terrestrial APE for the Project, where archaeological materials could originate, is located only within Rhode Island. No excavation should be initiated before acceptance and approval of a curation plan.

2. Collections from private lands that would remain private property: In cases where archaeological survey and testing are conducted on private land, any recovered collections remain the property of the land owner. In such instances, BOEM and Revolution Wind, in coordination with the SHPO, and affected Tribal Nation(s), will encourage land owners to donate the collection(s) to an appropriate public or Tribal entity. To the extent a private landowner requests that the materials be removed from the site, Revolution Wind will seek to have the materials donated to the repository identified under Stipulation VII.B.1 through a written donation agreement developed in consultation with the consulting parties. BOEM, assisted by Revolution Wind, will seek to have all materials from each state curated together in the same curation facility within the state of origin. In cases where the property owner wishes to transfer ownership of the collection(s) to a public or Tribal entity, BOEM and Revolution Wind will ensure that recovered artifacts and related documentation are curated in a suitable repository as agreed to by BOEM, SHPO, and affected Tribal Nation(s), and following applicable State guidelines. To the extent feasible, the materials and records resulting from the actions required by this MOA for private lands, shall be curated in accordance with 36 CFR 79. No excavation should be initiated before acceptance and approval of a curation plan.

VIII. PROFESSIONAL QUALIFICATIONS

A. SOI's Standards for Archaeology and Historic Preservation. Revolution Wind will ensure that all work carried out pursuant to this MOA will meet the SOI's Standards for Archaeology and Historic Preservation, 48 FR 44716 (September 29, 1983), taking into account the suggested approaches to new construction in the SOI's Standards for Rehabilitation.

B. SOI Professional Qualifications Standards. Revolution Wind will ensure that all work carried out pursuant to this MOA is performed by or under the direction supervision of historic preservation professionals who meet the SOI's Professional Qualifications Standards (48 FR 44738-44739). A "qualified professional" is a person who meets the relevant standards outlined in such SOI Standards. BOEM, or its designee, will ensure that consultants retained for services pursuant to the MOA meet these standards.

C. Investigations of ASLFs. Revolution Wind will ensure that the additional investigations of ASLFs will be conducted, and reports and other materials produced by one or more qualified marine archaeologists and geological specialists who meet the SOI's Professional Qualifications Standards and has experience both in conducting High Resolution Geophysical (HRG) surveys and processing and interpreting the resulting data for archaeological potential, as well as collecting, subsampling, and analyzing cores.

D. Tribal Consultation Experience. Revolution Wind will ensure that all work carried out pursuant to this MOA that requires consultation with Tribal Nations is performed by professionals who have demonstrated professional experience consulting with federally recognized Tribal Nations.

E. BOEM Acknowledgement of the Special Expertise of Tribal Nations. BOEM recognizes that all tribal participants and knowledge need not conform to the SOI's standards, acknowledging that Tribal Nations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to Tribal Nations, pursuant to 36 CFR 800.4(c)(1).

IX. DURATION

A. This MOA will expire at (1) the decommissioning of the Project in the lease area, as defined in Revolution Wind's lease with BOEM (Lease Number OCS-A 0486) or (2) 25-years from the date of COP approval, whichever occurs first. Prior to such time, BOEM may consult with the other signatories and invited signatories to reconsider the terms of the MOA and amend it in accordance with Amendment Stipulation (Stipulation XII).

X. POST-REVIEW DISCOVERIES AND EMERGENCY SITUATIONS

A. Implementation of Post-Review Discovery Plans. If properties are discovered that may be historically significant or unanticipated effects on historic properties found, BOEM shall implement the post-review discovery plans found in Attachment 15 (Revolution Wind Export Cable Onshore Substation and Interconnection Facility, North Kingstown, Rhode Island: Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains) and Attachment 16 (Unanticipated Discoveries Plan for Submerged Archaeological Sites, Historic Properties, and Cultural Resources Including Human Remains: Revolution Wind Farm for Lease Area OCS A-0486 Construction and Operations Plan).

1. The signatories acknowledge and agree that it is possible that additional historic properties may be discovered during implementation of the Project, despite the completion of a good faith effort to identify historic properties throughout the APEs.

B. All Post-Review Discoveries. In the event of a post-review discovery of a property or unanticipated effects to a historic property prior to or during construction, operation, maintenance, or decommissioning of the Project, Revolution Wind will implement the following actions which are consistent with the post-review discovery plan:

1. Immediately halt all ground- or seafloor-disturbing activities within the area of discovery while taking into account whether stabilization and further protections are warranted to keep the discovered resource from further degradation and impact;
2. Notify BOEM in writing via report within 72 hours of the discovery, including any recommendations on need and urgency of stabilization and additional protections for the discovered resource;

3. Keep the location of the discovery confidential and take no action that may adversely affect the discovered property until BOEM or its designee has made an evaluation and instructs Revolution Wind on how to proceed; and

4. Conduct any additional investigations as directed by BOEM or its designee to determine if the resource is eligible for listing in the NRHP (30 CFR 585.802(b)). BOEM will direct Revolution Wind to complete additional investigations, as BOEM deems appropriate, if:

    i. the site has been impacted by Revolution Wind Project activities; or

    ii. impacts to the site from Revolution Wind Project activities cannot be avoided.

5. If investigations indicate that the resource is eligible for the NRHP, BOEM, with the assistance of Revolution Wind, will work with the other relevant signatories, invited signatories, and consulting parties to this MOA who have a demonstrated interest in the affected historic property and on the further avoidance, minimization or mitigation of adverse effects.

6. If there is any evidence that the discovery is from an indigenous society or appears to be a preserved burial site, Revolution Wind will contact the Tribal Nations (Mashpee Wampanoag Tribe, Shinnecock Indian Nation, Mashantucket (Western) Pequot Tribal Nation, Wampanoag Tribe of Gay Head [Aquinnah], Mohegan Tribe of Indians of Connecticut, Narragansett Indian Tribe, Delaware Tribe of Indians, The Delaware Nation) as identified in the notification lists included in the post-review discovery plans within 72 hours of the discovery with details of what is known about the discovery, and consult with the Tribal Nations pursuant to the post review discovery plan.

7. If BOEM incurs costs in addressing the discovery, under Section 110(g) of the NHPA, BOEM may charge Revolution Wind reasonable costs for carrying out historic preservation responsibilities, pursuant to its delegated authority under the OCS Lands Act (30 CFR 585.802 (c-d)).

C. Emergency Situations. In the event of an emergency or disaster that is declared by the President or the Governor of Rhode Island or Massachusetts, which represents an imminent threat to public health or safety, or creates a hazardous condition, BOEM shall immediately notify the Tribal Nations, SHPOs, and the ACHP of the condition which has initiated the situation and the measures taken to respond to the emergency or hazardous condition. Should the Tribal Nations, SHPOs, or the ACHP desire to provide technical assistance to BOEM, they shall submit comments within seven calendar days from notification, if the nature of the emergency or hazardous condition allows for such coordination.

XI. MONITORING AND REPORTING

A. At the beginning of each calendar year by January 31, following the execution of this MOA until it expires or is terminated, Revolution Wind will prepare and, following BOEM's review and agreement to share this summary report, provide all signatories, invited signatories, and consulting parties to this MOA a summary report detailing work undertaken pursuant to the MOA. Such report shall include:

1. a description of how the stipulations relating to avoidance, minimization, and mitigation measures (Stipulations I, II, and III) were implemented;

2. any scheduling changes proposed; any problems encountered; and

3. any disputes and objections received in BOEM's efforts to carry out the terms of this MOA.

B. Revolution Wind can satisfy its reporting requirement under this stipulation by providing the relevant portions of the annual compliance certification required under 30 CFR 285.633.

C. BOEM with the assistance of Revolution Wind will hold annual meetings with the required signatories and invited signatories, to review work undertaken pursuant to the MOA for the first five calendar years of MOA implementation.

XII. DISPUTE RESOLUTION

A. Should any signatory, invited signatory, or consulting party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, they must notify BOEM in writing of their objection. BOEM shall consult with such party to resolve the objection. If BOEM determines that such objection cannot be resolved, BOEM will:

1. Forward all documentation relevant to the dispute, including the BOEM's proposed resolution, to the ACHP. The ACHP shall provide BOEM with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, BOEM shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, invited signatories, and/or consulting parties, and provide them with a copy of this written response. BOEM will make a final decision and proceed accordingly.

2. If the ACHP does not provide its advice regarding the dispute within the 30 calendar-day time period, BOEM may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, BOEM shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories, invited signatories, or consulting parties to the MOA, and provide them and the ACHP with a copy of such written response.

B. BOEM's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

C. At any time during the implementation of the measures stipulated in this MOA, should a member of the public object in writing to the signatories regarding the manner in which the measures stipulated in this MOA are being implemented, that signatory will notify BOEM. BOEM shall review the objection and may notify the other signatories as appropriate and respond to the objector.

XIII. AMENDMENTS

A. This MOA may be amended when such an amendment is agreed to in writing by all signatories and invited signatories. The amendment will be effective on the date a copy signed by all of the signatories and invited signatories is filed with the ACHP.

B. Revisions to any attachment may be proposed by any signatory or invited signatory by submitting a draft of the proposed revisions to all signatories and invited signatories with a notification to the consulting parties. The signatories and invited signatories will consult for no more than 30 calendar days (or another time period agreed upon by all signatories and invited signatories) to consider the proposed revisions to the attachment. If the signatories and invited signatories unanimously agree to revise the attachment, Revolution Wind BOEM will provide a copy of the revised attachment to the other signatories, invited signatories, and consulting parties. Revisions to any attachment to this MOA will not require an amendment to the MOA.

XIV. TERMINATION

A. If any signatory or invited signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories, invited signatories, and consulting parties to attempt to develop an amendment per Stipulation XII. If within 30 calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory or invited signatory may terminate the MOA upon written notification to the other signatories.

B. Once the MOA is terminated, and prior to work continuing on the undertaking, BOEM must either(a) execute an MOA pursuant to 36 CFR 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. BOEM shall notify the signatories and invited signatories as to the course of action it will pursue.

XV. COORDINATION WITH OTHER FEDERAL AGENCIES

A. In the event that another federal agency not initially a party to or subject to this MOA receives an application for funding/license/permit for the undertaking as described in this MOA, that agency may fulfill its Section 106 responsibilities by stating in writing it concurs with the terms of this MOA and notifying the signatories and invited signatories that it intends to do so. Such federal agency may become a signatory, invited signatory, or a concurring party (collectively referred to as signing party) to the MOA as a means of complying with its responsibilities under Section 106 and based on its level of involvement in the undertaking. To become a signing party to the MOA, the agency official must provide written notice to the signatories and invited signatories that the agency agrees to the terms of the MOA, specifying the extent of the agency's intent to participate in the MOA. The participation of the agency is subject to approval by the signatories and invited signatories who must respond to the written notice within 30 calendar days, or the approval will be considered implicit. Any necessary amendments to the MOA as a result will be considered in accordance with the Amendment Stipulation (Stipulation XII).

B. Should the signatories and invited signatories approve the federal agency's request to be a signing party to this MOA, an amendment under Stipulation XII will not be necessary if the federal agency's participation does not change the undertaking in a manner that would require any modifications to the stipulations set forth in this MOA. BOEM will document these conditions and involvement of the federal agency in a written notification to the signatories, invited signatories, and consulting parties, and include a copy of the federal agency's executed signature page, which will codify the addition of the federal agency as a signing party in lieu of an amendment.

XVI. ANTI-DEFICIENCY ACT

A. Pursuant to 31 USC 1341(a)(1), nothing in this MOA will be construed as binding the United States to expend in any one fiscal year any sum in excess of appropriations made by Congress for this purpose, or to involve the United States in any contract or obligation for the further expenditure of money in excess of such appropriations.

B. Execution of this MOA by BOEM, the Connecticut, Massachusetts, New York, and Rhode Island SHPOs, and the ACHP, and implementation of its terms evidence that BOEM has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

[SIGNATURES COMMENCE ON FOLLOWING PAGE]

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Signatory:

Bureau of Ocean Energy Management (BOEM)

_____ Date:_____

Elizabeth Klein
Director
Bureau of Ocean Energy Management

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Signatory:

Connecticut State Historic Preservation Officer (SHPO)

_____ Date:_____

Catherine Labadia
Deputy State Historic Preservation Officer
Connecticut State Historic Preservation Office

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Signatory:

Rhode Island State Historic Preservation Officer (SHPO)

_____ Date:_____

Jeffrey Emidy
Executive Director and State Historic Preservation Officer
Rhode Island Historical Preservation & Heritage Commission

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Signatory:

New York State Historic Preservation Officer (SHPO)

_____ Date:_____

Roger Daniel Mackay
Deputy Commissioner New York State Division for Historic Preservation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Signatory:

Massachusetts State Historic Preservation Officer (SHPO)

_____ Date:_____

Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Signatory:

Advisory Council on Historic Preservation (ACHP)

_____ Date:_____

Reid J. Nelson
Executive Director
Advisory Council on Historic Preservation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Invited Signatory:

Revolution Wind, LLC

_____ Date:_____

Kellen Ingalls
Authorized Person
Revolution Wind, LLC

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Mashpee Wampanoag Tribe

_____ Date:_____

[Name]
[Title]
Mashpee Wampanoag Tribe

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Shinnecock Indian Nation

_____ Date:_____

[Name]
[Title]
Shinnecock Indian Nation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Mashantucket (Western) Pequot Tribal Nation

_____ Date:_____

[Name]
[Title]
Mashantucket (Western) Pequot Tribal Nation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Wampanoag Tribe of Gay Head (Aquinnah)

_____ Date:_____

[Name]
[Title]
Wampanoag Tribe of Gay Head (Aquinnah)

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Mohegan Tribe of Indians of Connecticut

_____ Date:_____

[Name]
[Title]
Mohegan Tribe of Indians of Connecticut

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Narragansett Indian Tribe

_____ Date:_____

[Name]
[Title]
Narragansett Indian Tribe

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

The Delaware Tribe of Indians

_____ Date:_____

[Name]
[Title]
The Delaware Tribe of Indians

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

The Delaware Nation

_____ Date:_____

[Name]
[Title]
The Delaware Nation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

Concurring Party:

Organization

_____ Date:_____
Name
Title
Organization

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF CONNECTICUT,
MASSACHUSETTS, NEW YORK, AND RHODE ISLAND,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE REVOLUTION WIND OFFSHORE WIND FARM PROJECT

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ATTACHMENT 1 –PROGRAMMATIC AGREEMENT

MAY 23 2012

PROGRAMMATIC AGREEMENT
Among
The U.S. Department of the Interior, Bureau of Ocean Energy Management;
the State Historic Preservation Officers of Massachusetts and Rhode Island;
The Mashpee Wampanoag Tribe;
The Narragansett Indian Tribe;
The Wampanoag Tribe of Gay Head (Aquinnah); and
The Advisory Council on Historic Preservation;
Regarding
the "Smart from the Start" Atlantic Wind Energy Initiative:
Leasing and Site Assessment Activities offshore Massachusetts and Rhode Islands

WHEREAS, the Energy Policy Act of 2005, Pub. L. No. 109-58, added Section 8(p)(1)(C) to the Outer Continental Shelf Lands Act (OCSLA), which grants the Secretary of the Interior the authority to issue leases, easements, or rights-of-way on the Outer Continental Shelf (OCS) for the purpose of renewable energy development, including wind energy development. *See* 43 U.S.C. § 1337(p)(1)(C); and

WHEREAS, the Secretary delegated this authority to the former Minerals Management Service (MMS), now the Bureau of Ocean Energy Management (BOEM), and promulgated final regulations implementing this authority at 30 CFR Part 585; and

WHEREAS, under the renewable energy regulations, the issuance of leases and subsequent approval of wind energy development on the OCS is a staged decision-making process that occurs in distinct phases: lease issuance; approval of a site assessment plan (SAP); and approval of a construction and operation plan (COP); and

WHEREAS, BOEM is currently identifying areas that may be suitable for wind energy leasing through collaborative, consultative, and analytical processes; and

WHEREAS, the issuance of a commercial wind energy lease gives the lessee the exclusive right to subsequently seek BOEM approval of plans (SAPs and COPs) for the development of the leasehold; and

WHEREAS, the lease does not grant the lessee the right to construct any facilities; rather, the lease grants the lessee the right to use the leased area to develop its plans, which must be approved by BOEM before the lessee implements them. *See* 30 CFR 585.600 and 585.601; and

WHEREAS, the SAP contains the lessee's detailed proposal for the construction of a meteorological tower and/or the installation of meteorological buoys ("site assessment activities") on the leasehold. *See* 30 CFR 585.605 - 585.618; and

WHEREAS, the lessee's SAP must be approved by BOEM before it conducts these "site assessment" activities on the leasehold; and

WHEREAS, BOEM may approve, approve with modification, or disapprove a lessee's SAP. *See* 30 CFR 585.613; and

WHEREAS, the COP is a detailed plan for the construction and operation of a wind energy project on the lease. *See* 30 CFR 585.620-585.638; and

WHEREAS, BOEM approval of a COP is a precondition to the construction of any wind energy facility on the OCS. *See* 30 CFR 585.600; and

WHEREAS, the regulations require that a lessee provide the results of surveys with its SAP and COP for the areas affected by the activities proposed in each plan, including an archaeological resource survey. *See* 30 CFR 585.610(b)(3) and 30 CFR 585.626(a)(5). BOEM refers to surveys undertaken to acquire this information as "site characterization" activities. *See Guidelines for Providing Geological and Geophysical, Hazards, and Archaeological Information Pursuant to 30 CFR Part 585* at: http://www.boem.gov/Renewable-Energy-Program/Regulatory-Information/GGARCH4-11-2011-pdf.aspx; and

WHEREAS, BOEM has embarked upon the "Smart from the Start" Atlantic Wind Energy Initiative for the responsible development of wind energy resources on the Atlantic OCS; and

WHEREAS, under the "Smart from the Start" Initiative, BOEM has identified areas on the OCS that appear most suitable for future wind energy activities offshore the Commonwealth of Massachusetts (MA) and the State of Rhode Island (RI); and

WHEREAS these areas are located: (1) within the Rhode Island-Massachusetts Wind Energy Area (WEA); and (2) within the MA Call area east of the Rhode Island-Massachusetts WEA (hereafter known as "Areas"); and

WHEREAS BOEM may issue multiple renewable energy leases and approve multiple SAPs on leases issued within these Areas; and

WHEREAS, BOEM has determined that issuing leases and approving SAPs within these Areas constitute multiple undertakings subject to Section 106 of the National Historic Preservation Act (NHPA; 16 U.S.C. § 470f), and its implementing regulations (36 CFR 800); and

WHEREAS, BOEM has determined that the implementation of the program is complex as the decisions on these multiple undertakings are staged, pursuant to 36 CFR § 800.14(b); and

WHEREAS, the implementing regulations for Section 106 (36 CFR § 800) prescribe a process that seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among parties with an interest in the effects of the undertakings, commencing at the early stages of the process; and

WHEREAS, the Section 106 consultations have been initiated and coordinated with other reviews, including the National Environmental Policy Act (NEPA), in accordance with 36 CFR § 800.3(b); and

WHEREAS, 36 CFR § 800.14(b)(3) provides for developing programmatic agreements (Agreements) for complex or multiple undertakings and § 800.14(b)(1)(ii) and (v) provide for developing Agreements when effects on historic properties cannot be fully determined prior to approval of an undertaking and for other circumstances warranting a departure from the normal section 106 process; and

WHEREAS, 36 CFR § 800.4(b)(2) provides for phased identification and evaluation of historic properties where alternatives consist of large land areas, and for the deferral of final identification and evaluation of historic properties when provided for in a Agreement executed pursuant to 36 CFR §800.14(b); and

WHEREAS, BOEM has determined that the identification and evaluation of historic properties shall be conducted through a phased approach, pursuant to 36 CFR § 800.4(b)(2), where the final identification of historic properties will occur after the issuance of a lease or leases and before the approval of a SAP; and

WHEREAS, the Section 106 consultations described in this Agreement will be used to establish a process for identifying historic properties located within the undertakings' Areas of Potential Effects (APE) that are listed in or eligible for listing in the National Register of Historic Places (National Register), and assess the potential adverse effects and avoid, reduce, or resolve any such effects through the process set forth in this Agreement; and

WHEREAS, according to 36 CFR § 800.16(l)(1) "historic property" means

> *any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria*; and

WHEREAS, the APEs, as defined in 36 CFR § 800.16(d) of the Advisory Council on Historic Preservation's (ACHP's) regulations implementing Section 106 of the NHPA, for the undertakings that are the subject of this Agreement, are: (1) the depth and breadth of the seabed that could potentially be impacted by seafloor/bottom-disturbing activities associated with the undertakings (e.g., core samples, anchorages and installation of meteorological towers and buoys); and (2) the viewshed from which lighted meteorological structures would be visible; and

WHEREAS, BOEM has identified and consulted with the State Historic Preservation Offices (SHPOs) for MA and RI, (collectively, "the SHPOs"); and

WHEREAS, BOEM initiated consultation in 2011 and 2012 through letters of invitation, telephone calls, emails, meetings, webinars, and the circulation and discussion of this Agreement in draft; and this outreach and notification included contacting over 66 individuals and entities, including federally-recognized Indian Tribes (Tribes), local governments, SHPOs, and the public; and

WHEREAS, BOEM has initiated formal government-to-government consultation with the following Tribes: the Mashpee Wampanoag Tribe, the Narragansett Indian Tribe, the Shinnecock Indian Nation, and the Wampanoag Tribe of Gay Head (Aquinnah); and

WHEREAS, these Tribes have chosen to consult with BOEM and participate in development of this Agreement, in which the term Tribe refers to them, within the meaning of 36 CFR § 800.16(m); and

WHEREAS, BOEM shall continue to consult with these Tribes to identify properties of religious and cultural significance that may be eligible for listing in the National Register of Historic Places (Traditional Cultural Properties or TCPs) and that may be affected by these undertakings; and

WHEREAS, BOEM involves the public and identifies other consulting parties through notifications, requests for comments, existing renewable energy task forces, contact with SHPOs, NEPA scoping meetings and communications for these proposed actions; and

WHEREAS, BOEM, the SHPOs, the Mashpee Wampanoag Tribe, the Narragansett Indian Tribe, and the Wampanoag Tribe of Gay Head (Aquinnah) and the ACHP are Signatories to this Agreement, and

WHEREAS, future submission of a COP and commercial-scale development that may or may not occur within the Areas would be separate undertakings and considered under future, separate Section 106 consultation(s) not under this Agreement; and

WHEREAS, BOEM requires a SAP to include the results of site characterization surveys that will identify potential archaeological resources that could be affected by the installation and operation of meteorological facilities. *See* (30 CFR § 585.611 (b)(6); and

WHEREAS, consultations conducted prior to the execution of this Agreement included all steps in the Section 106 process up to and including consulting on the scope of identification efforts that would be used to conduct site characterization surveys that would identify historic properties that may be impacted by activities described in the SAP pursuant to 36 CFR § 800.4(a); and

WHEREAS, these consultations resulted in recommendations to BOEM that the following items should be added to leases issued within the Areas, both to ensure that

historic properties that may be impacted by activities described in the SAP are identified through a reasonable and good faith effort (§ 800.4(b)(1)), and also to ensure that properties identified through the geophysical surveys are not impacted by geotechnical sampling:

> *The lessee may only conduct geotechnical (sub-bottom) sampling activities in areas of the leasehold in which an analysis of the results of geophysical surveys has been completed for that area. The geophysical surveys must meet BOEM's minimum standards (see Guidelines for Providing Geological and Geophysical, Hazards, and Archaeological Information Pursuant to 30 CFR Part 285 at* http://www.boem.gov/Renewable-Energy-Program/Regulatory-Information/GGARCH4-11-2011-pdf.aspx*), and the analysis must be completed by a qualified marine archaeologist who both meets the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738- 44739) and has experience analyzing marine geophysical data. This analysis must include a determination whether any potential archaeological resources are present in the area and the geotechnical (sub-bottom) sampling activities must avoid potential archaeological resources by a minimum of 50.0 meters (m; 164.0 feet). The avoidance distance must be calculated from the maximum discernible extent of the archaeological resource. In no case may the lessee's actions impact a potential archaeological resource without BOEM's prior approval*;

NOW, THEREFORE, BOEM, the ACHP, the SHPOs, Tribes, and the other concurring parties (the Parties), agree that Section 106 consultation shall be conducted in accordance with the following stipulations in order to defer final identification and evaluation of historic properties.

STIPULATIONS

I. SAP Decisions. Before making a decision on a SAP from a lessee, BOEM will treat all potential historic properties identified as a result of site characterization studies and consultations as historic properties potentially eligible for inclusion on the National Register and avoid them by requiring the lessee to relocate the proposed project, resulting in a finding of *No historic properties affected* (36 CFR § 800.4(d)(1)). If a potential historic property is identified, and the lessee chooses to conduct additional investigations, and:

A. If additional investigations demonstrate that a historic property does not exist, then BOEM will make a determination of *No historic properties affected* and follow 36 CFR § 800.4(d)(1).

B. If additional investigations demonstrate that a historic property does exist and may be affected, BOEM will evaluate the historic significance of the property, in accordance with 800.4(c); make a determination of *Historic properties affected* and follow 36 CFR § 800.4(d)(2); and resolve any adverse effects by following 800.5.

II. Tribal Consultation. BOEM shall continue to consult with the Tribes throughout the implementation of this Agreement in a government-to-government manner consistent with Executive Order 13175, Presidential memoranda, and any Department of the Interior policies, on subjects related to the undertakings.

III. Public Participation

A. Because BOEM and the Parties recognize the importance of public participation in the Section 106 process, BOEM shall continue to provide opportunities for public participation in Section 106-related activities, and shall consult with the Parties on possible approaches for keeping the public involved and informed throughout the term of the Agreement.

B. BOEM shall keep the public informed and may produce reports on historic properties and on the Section 106 process that may be made available to the public at BOEM's headquarters, on the BOEM website, and through other reasonable means insofar as the information shared conforms to the confidentiality clause of this Agreement (Stipulation IV).

IV. Confidentiality. Because BOEM and the Parties agree that it is important to withhold from disclosure sensitive information such as that which is protected by NHPA Section 304 (16 U.S.C. § 470w-3) (*e.g.*, the location, character and ownership of an historic resource, if disclosure would cause a significant invasion of privacy, risk harm to the historic resources, or impede the use of a traditional religious site by practitioners), BOEM shall:

A. Request that each Party inform the other Parties if, by law or policy, it is unable to withhold sensitive data from public release.

B. Arrange for the Parties to consult as needed on how to protect such information collected or generated under this Agreement.

C. Follow, as appropriate, 36 CFR 800.11(c) for authorization to withhold information pursuant to NHPA Section 304, and otherwise withhold sensitive information to the extent allowable by laws including the Freedom of Information Act, 5 U.S.C. § 552, through the Department of the Interior regulations at 43 CFR Part 2.

D. Request that the Parties agree that materials generated during consultation be treated by the Parties as internal and pre-decisional until they are formally released, although the Parties understand that they may need to be released by one of the Parties if required by law.

V. Administrative Stipulations

A. In coordinating reviews, BOEM shall follow this process:

1. Standard Review: The Parties shall have a standard review period of thirty (30) calendar days for commenting on all documents which are developed under the terms of this Agreement, from the date they are sent by BOEM.

2. Expedited Request for Review: The Parties recognize the time-sensitive nature of this work and shall attempt to expedite comments or concurrence when BOEM so requests. The expedited comment period shall not be less than fifteen (15) calendar days from the date BOEM sends such a request.

3. If a Party cannot meet BOEM's expedited review period request, it shall notify BOEM in writing within the fifteen (15) calendar day period. If a Party fails to provide comments or respond within the time frame requested by BOEM (either standard or expedited), then BOEM may proceed as though it has received concurrence from that Party. BOEM shall consider all comments received within the review period.

4. All Parties will send correspondence and materials for review via electronic media unless a Party requests, in writing, that BOEM transmit the materials by an alternate method specified by that Party. Should BOEM transmit the review materials by the alternate method, the review period will begin on the date the materials were received by the Party, as confirmed by delivery receipt.

5. MA and RI SHPO Review Specifications: All submittals to the MA and RI SHPOs shall be in paper format and shall be delivered to the MA and RI SHPOs' offices by US Mail, by a delivery service, or by hand. Plans and specifications submitted to the MA and RI SHPOs shall measure no larger than 11" x 17" paper format (unless another format is specified in consultation). The MA and RI SHPOs shall review and comment on all adequately documented project submittals within 30 calendar days of receipt unless a response has been requested within the expedited review period specified in Stipulation V.A.2.

6. Each Signatory shall designate a point of contact for carrying out this Agreement and provide this contact's information to the other Parties, updating it as necessary while this Agreement is in force. Updating a point of contact alone shall not necessitate an amendment to this Agreement.

B. Dispute Resolution. Should any Signatory object in writing to BOEM regarding an action carried out in accordance with this Agreement, or lack of compliance with the terms of this Agreement, the Signatories shall consult to resolve the objection. Should the Signatories be unable to resolve the disagreement, BOEM shall forward its background information on the dispute as well as its proposed resolution of the dispute to the ACHP. Within 45 calendar days after receipt of all pertinent documentation, the ACHP shall either: (1) provide BOEM with written recommendations, which BOEM shall take into account in reaching a final decision regarding the dispute; or (2) notify BOEM that it shall comment pursuant to 36 CFR 800.7(c), and proceed to comment. BOEM shall take this ACHP comment into account, in accordance with 36 CFR 800.7(c)(4). Any ACHP recommendation or comment shall be understood to pertain only to the subject matter of the dispute; BOEM's responsibility to carry out all actions under this Agreement that are not subjects of dispute shall remain unchanged.

C. Amendments. Any Signatory may propose to BOEM in writing that the Agreement be amended, whereupon BOEM shall consult with the Parties to consider such amendment. This Agreement may then be amended when agreed to in writing by all Signatories, becoming effective on the date that the amendment is executed by the ACHP as the last Signatory.

D. Adding Federal Agencies. In the event that another Federal agency believes it has Section 106 responsibilities related to the undertakings which are the subject of this Agreement, that agency may attempt to satisfy its Section 106 responsibilities by agreeing in writing to the terms of this Agreement and notifying and consulting with the SHPOs and the ACHP. Any modifications to this agreement that may be necessary for meeting that agency's Section 106 obligations shall be considered in accordance with this Agreement.

E. Adding Concurring Parties. In the event that another party wishes to assert its support of this Agreement, that party may prepare a letter indicating its concurrence, which BOEM will attach to the Agreement and circulate among the Signatories.

F. Term of Agreement. The Agreement shall remain in full force until BOEM makes a final decision on the last SAP submitted under a lease issued under this portion of the "Smart from the Start" initiative, or for ten (10) years from the date the Agreement is executed, defined as the date the last signatory

signs, whichever is earlier, unless otherwise extended by amendment in accordance with this Agreement.

G. Termination.

1. If any Signatory determines that the terms of the Agreement cannot or are not being carried out, that Party shall notify the other Signatories in writing and consult with them to seek amendment of the Agreement. If within sixty (60) calendar days, an amendment cannot be made, any Signatory may terminate the Agreement upon written notice to the other Signatories.

2. If termination is occasioned by BOEM's final decision on the last SAP contemplated under this portion of the "Smart from the Start" Initiative, BOEM shall notify the Parties and the public, in writing.

H. Anti-Deficiency Act. Pursuant to 31 U.S.C. § 1341(a)(1), nothing in this Agreement shall be construed as binding the United States to expend in any one fiscal year any sum in excess of appropriations made by Congress for this purpose, or to involve the United States in any contract or obligation for the further expenditure of money in excess of such appropriations.

I. Existing Law and Rights. Nothing in this Agreement shall abrogate existing laws or the rights of any consulting party or agency party to this Agreement.

J. Compliance with Section 106. Execution and implementation of this Agreement evidences that BOEM has satisfied its Section 106 responsibilities for all aspects of these proposed undertakings by taking into account the effects of these undertakings on historic properties and affording the ACHP a reasonable opportunity to comment with regard to the undertakings.

Programmatic Agreement concerning the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island

By:

Maureen A. Bornholdt Date: 5-23-12

Maureen A. Bornholdt
Program Manager, Office of Renewable Energy Programs
Bureau of Ocean Energy Management

Programmatic Agreement concerning the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island

Brona Simon Date: 5/31/12

Brona Simon
Massachusetts Historical Commission
Massachusetts State Historic Preservation Officer

Programmatic Agreement concerning the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island

Edward F. Sanderson Date: 6/4/2012

[NAME] Edward F. Sanderson
[TITLE] Executive Director, Rhode Island Historical Preservation & Heritage Commission
Rhode Island State Historic Preservation Officer

Programmatic Agreement concerning the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island

Date: 05 June 2012

John Brown
Tribal Historic Preservation Officer
Narragansett Indian Tribe

Programmatic Agreement concerning the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island

Cedric Cromwell Date: 5/29/12

Cedric Cromwell
Tribal Chairman
Mashpee Wampanoag Tribe

Programmatic Agreement concerning the "Smart from the Start" Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island

John M. Fowler Date: 6/8/12

John M. Fowler
Executive Director
Advisory Council on Historic Preservation

ATTACHMENT 2 – AREA OF POTENTIAL EFFECTS MAPS

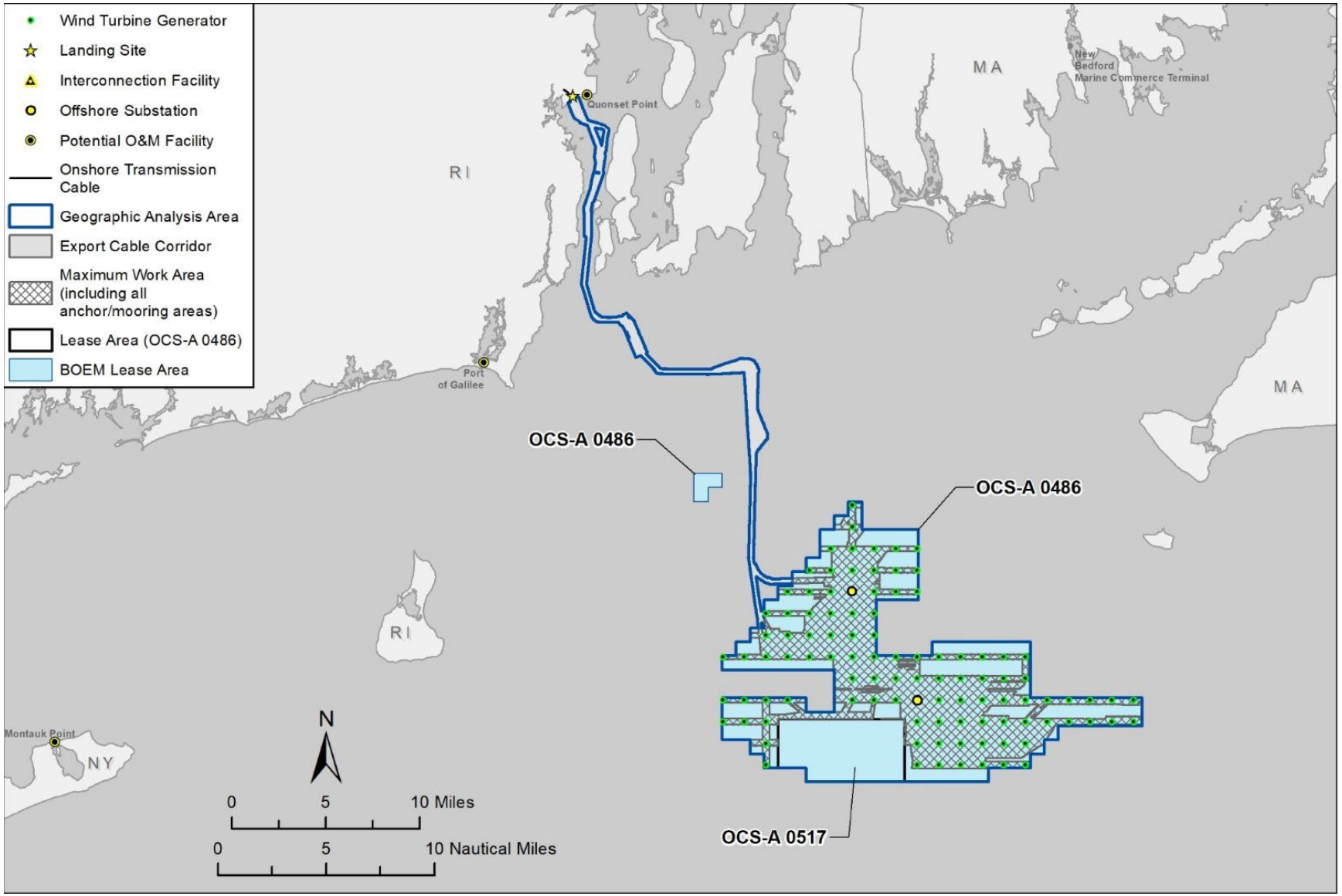

Figure 1. Revolution Wind construction and operations plan proposed offshore Project elements.

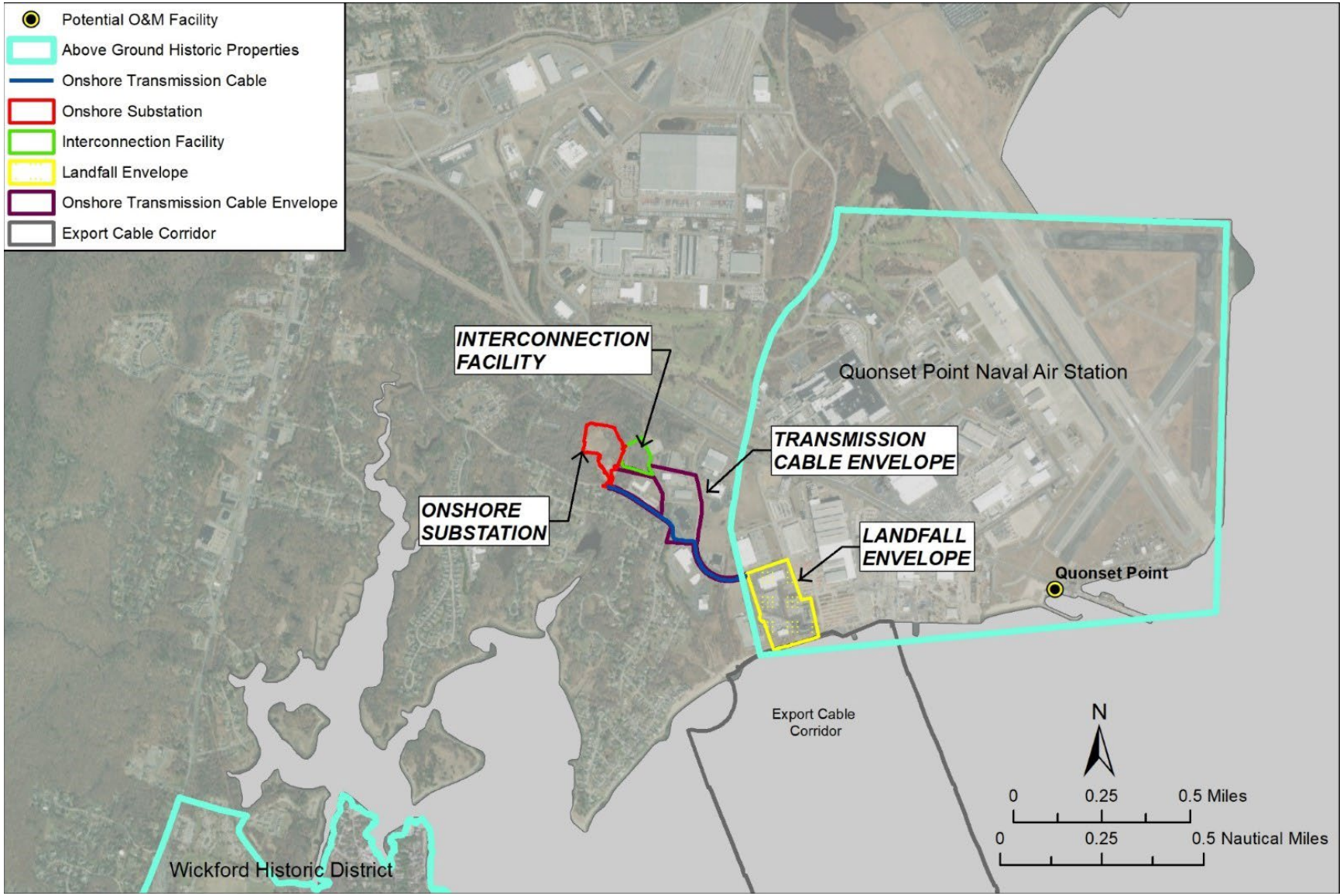

Figure 2. Revolution Wind construction and operations plan proposed onshore Project elements.

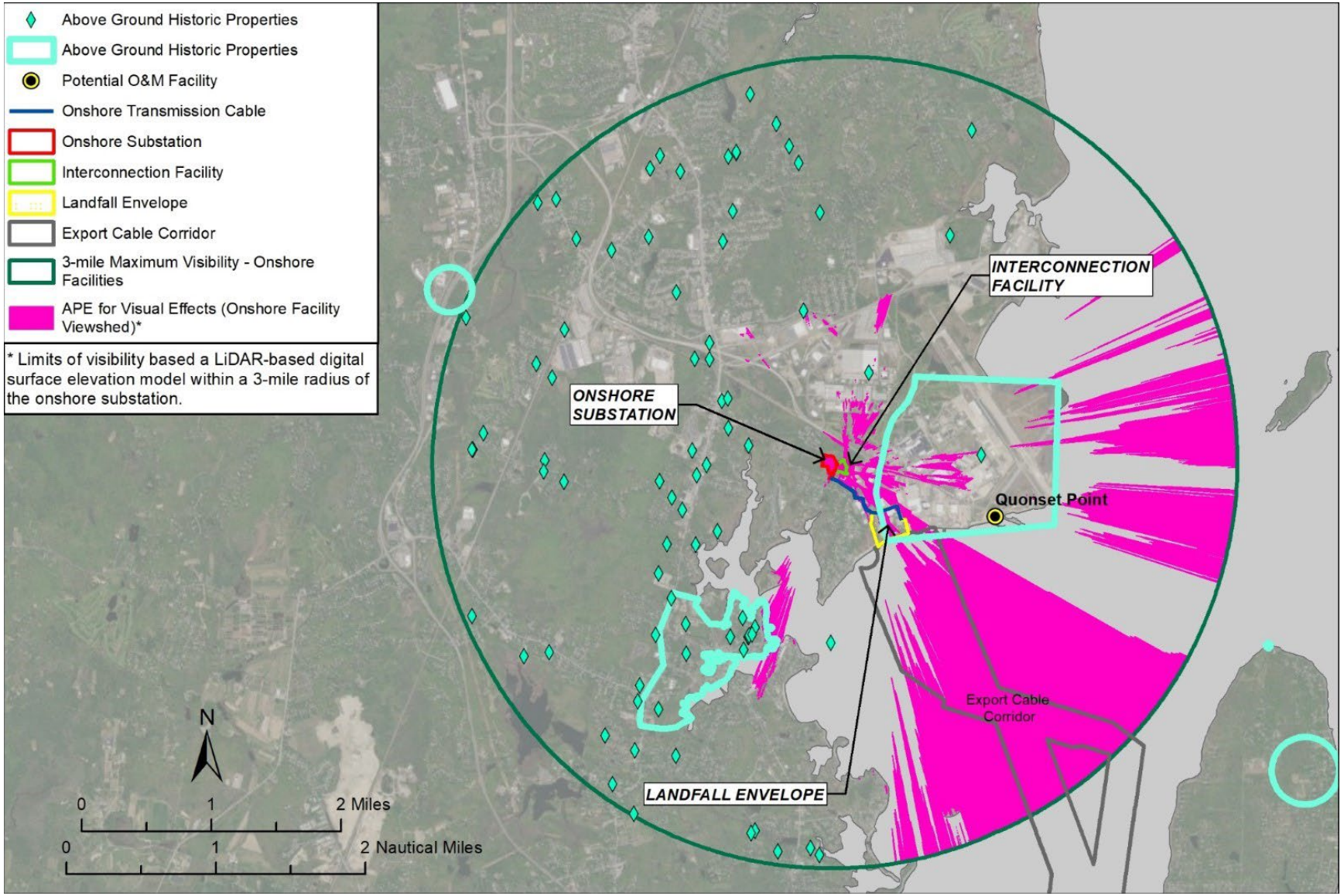

Figure 3. Visual area of potential effects and visual effects assessment geographic analysis area – onshore.

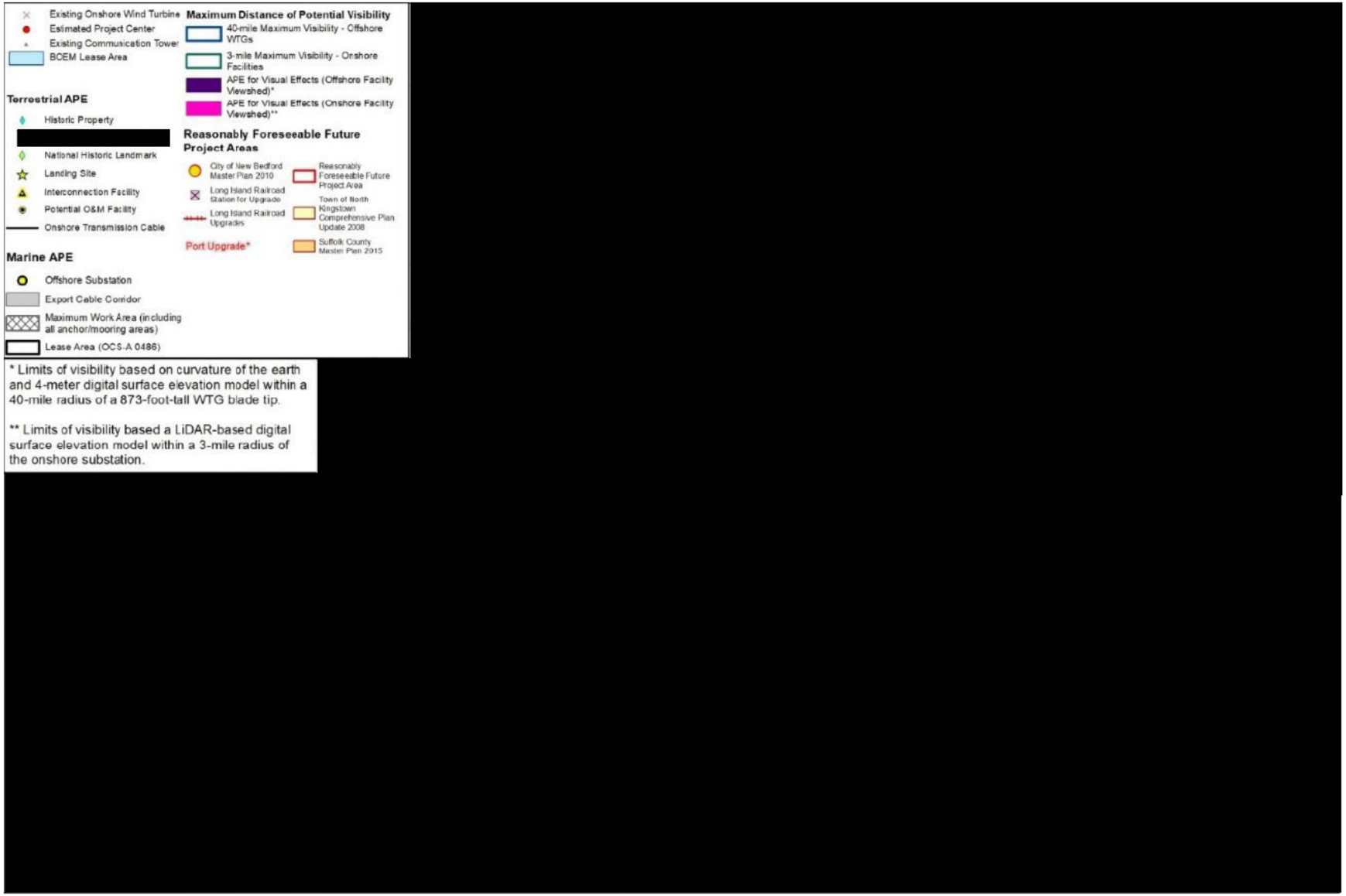

Figure 4. Visual area of potential effects and visual effects assessment geographic analysis area – offshore.

ATTACHMENT 3 – ABOVE GROUND HISTORIC PROPERTIES ADVERSELY AFFECTED BY THE PROJECT

Table 1. Above Ground Historic Properties Adversely Affected by the Project, in Order of Nearest Distance to Project WTGs

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
TCP-3	[redacted] TCP	[redacted]	[redacted]	MA	NRHP-eligible (BOEM determined)	6*
300	Sakonnet Light Station	Little Compton	Newport	RI	NRHP-listed resource	12.7
297	Warren Point Historic District	Little Compton	Newport	RI	NRHP-eligible resource (RIHPHC determined)	12.9
299	Abbott Phillips House	Little Compton	Newport	RI	RIHPHC historic resource	13
504	Flaghole	Chilmark	Dukes	MA	MHC historic inventory site	13.3
296	Stone House Inn	Little Compton	Newport	RI	NRHP-listed resource	13.4
503	Simon Mayhew House	Chilmark	Dukes	MA	MHC historic inventory site	13.5
496	71 Moshup Trail	Aquinnah	Dukes	MA	MHC historic inventory site	13.7
484	Vanderhoop, Edwin DeVries Homestead	Aquinnah	Dukes	MA	NRHP-listed resource	13.7
480	Gay Head - Aquinnah Shops Area	Aquinnah	Dukes	MA	MHC historic inventory site	13.7
474	Flanders, Ernest House, Shop, Barn	Aquinnah	Dukes	MA	MHC historic inventory site	13.8
495	3 Windy Hill Drive	Aquinnah	Dukes	MA	MHC historic inventory site	13.9
479	Gay Head Light	Aquinnah	Dukes	MA	NRHP-listed resource	13.9
485	Tom Cooper House	Aquinnah	Dukes	MA	MHC historic inventory site	14
497	Leonard Vanderhoop House	Aquinnah	Dukes	MA	MHC historic inventory site	14
490	Theodore Haskins House	Aquinnah	Dukes	MA	MHC historic inventory site	14.1
486	Gay Head - Aquinnah Coast Guard Station Barracks	Aquinnah	Dukes	MA	MHC historic inventory site	14.1
491	Gay Head - Aquinnah Town Center Historic District	Aquinnah	Dukes	MA	NRHP-listed resource	14.2
303	Gooseneck Causeway	Westport	Bristol	MA	MHC historic inventory site	14.8
304	Gooseberry Neck Observation Towers	Westport	Bristol	MA	MHC historic inventory site	14.8
540	Spring Street	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	14.9
590	Capt. Mark L. Potter House	New Shoreham	Washington	RI	RIHPHC historic resource	14.9
276	Tunipus Goosewing Farm	Little Compton	Newport	RI	NRHP-Eligible Resource (RIHPHC Determined)	15
543	WWII Lookout Tower – Spring Street	New Shoreham	Washington	RI	NRHP-Eligible Resource (RIHPHC Determined)	15.1
251	Westport Harbor	Westport	Bristol	MA	MHC historic inventory site	15.2
290	Bellevue Avenue Historic District NHL	Newport	Newport	RI	NHL	15.2
548	Block Island Southeast Lighthouse NHL	New Shoreham	Washington	RI	NHL	15.2
595	New Shoreham Historic District	New Shoreham	Washington	RI	Local Historic	15.3
536	Spring Cottage	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.3
531	Old Harbor Historic District	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC-determined)	15.3
538	Captain Welcome Dodge Sr.	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.3
541	Caleb W. Dodge Jr. House	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.3
535	Spring House Hotel	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.4
545	Pilot Hill Road and Seaweed Lane	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.4
222	Ocean Drive Historic District NHL	Newport	Newport	RI	NHL	15.7
298	Marble House NHL	Newport	Newport	RI	NHL	15.7
597	Ochre Point – Cliffs Historic District	Newport	Newport	RI	NRHP-listed resource	15.8

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
546	WWII Lookout Tower at Sands Pond	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.8
552	Sea View Villa	Middletown	Newport	RI	RIHPHC historic resource	15.9
295	Rosecliff/Oelrichs (Hermann) House/ Mondroe (J. Edgar) House	Newport	Newport	RI	NRHP-listed resource	15.9
293	The Breakers NHL	Newport	Newport	RI	NHL	15.9
516	Corn Neck Road	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	15.9
302	Clam Shack Restaurant	Westport	Bristol	MA	MHC historic inventory site	15.9
301	Horseneck Point Lifesaving Station	Westport	Bristol	MA	MHC historic inventory site	15.9
553	Whetstone	Middletown	Newport	RI	RIHPHC historic resource	16
284	The Bluff/John Bancroft Estate	Middletown	Newport	RI	RIHPHC historic resource	16
288	Clambake Club of Newport	Middletown	Newport	RI	NRHP-listed resource	16
530	Old Town and Center Roads	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16
526	Beach Avenue	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.1
519	Mitchell Farm	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.1
523	Indian Head Neck Road	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.2
168	Westport Pt. Revolutionary War Properties	Westport	Bristol	MA	MHC historic inventory site	16.2
261	Indian Avenue Historic District	Middletown	Newport	RI	NRHP-listed resource	16.2
278	St. Georges School	Middletown	Newport	RI	NRHP-listed resource	16.3
528	Hygeia House	New Shoreham	Washington	RI	NRHP-listed resource	16.3
527	U.S. Weather Bureau Station	New Shoreham	Washington	RI	NRHP-listed resource	16.3
549	Miss Abby E. Vaill/1 of 2 Vaill cottages	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.4
550	Hon. Julius Deming Perkins / "Bayberry Lodge"	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.4
542	Lakeside Drive and Mitchell Lane	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.5
280	Land Trust Cottages	Middletown	Newport	RI	NRHP-eligible resource (RIHPHC determined)	16.6
482	Russell Hancock House	Chilmark	Dukes	MA	MHC historic inventory site	16.6
163	Westport Point Historic District (1 of 2)	Westport	Bristol	MA	NRHP-eligible resource (MHC determined)	16.7
164	Westport Point Historic District (2 of 2)	Westport	Bristol	MA	NRHP-listed resource	16.7
551	Mohegan Cottage/Everett D. Barlow House	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.7
266	Paradise Rocks Historic District	Middletown	Newport	RI	RIHPHC historic resource	16.8
547	Lewis- Dickens Farm	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.8
525	Island Cemetery/Old Burial Ground	New Shoreham	Washington	RI	RI Historical Cemetery	16.8
279	Kay St.-Catherine St.-Old Beach Rd. Historic District/The Hill	Newport	Newport	RI	NRHP-listed resource	16.9
532	Beacon Hill Road	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.9
533	Nathan Mott Park	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	16.9
515	Block Island North Lighthouse	New Shoreham	Washington	RI	NRHP-listed resource	17.1
522	Champlin Farm	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.1
517	Hippocampus/Boy's Camp/ Beane Family	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.2
520	U.S. Lifesaving Station	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.4

Survey ID	Visually Sensitive Resource	Municipality	County	State	Property Designation	Distance to nearest RWF WTG (miles)
518	U.S. Coast Guard Brick House	New Shoreham	Washington	RI	NRHP-eligible resource (RIHPHC determined)	17.4
521	Peleg Champlin House	New Shoreham	Washington	RI	NRHP-listed resource	17.5
469	Hancock, Captain Samuel - Mitchell, Captain West House	Chilmark	Dukes	MA	NRHP-eligible resource (MHC determined)	17.6
508	Scrubby Neck Schoolhouse	West Tisbury	Dukes	MA	MHC historic inventory site	18
345	Point Judith Lighthouse	Narragansett	Washington	RI	NRHP-listed resource	18.2
245	Bailey Farm	Middletown	Newport	RI	NRHP-listed resource	18.3
226	Beavertail Light	Jamestown	Newport	RI	NRHP-listed resource	18.4
582	Horsehead/Marbella	Jamestown	Newport	RI	NRHP-listed resource	18.6
333	Ocean Road Historic District	Narragansett	Washington	RI	NRHP-listed resource	18.9
335	Dunmere	Narragansett	Washington	RI	NRHP-listed resource	19.1
86	Puncatest Neck Historic District	Tiverton	Newport	RI	RIHPHC historic resource	19.4
576	Fort Varnum/Camp Varnum	Narragansett	Washington	RI	NRHP-eligible resource (RIHPHC determined)	19.6
156	Salters Point	Dartmouth	Bristol	MA	MHC historic inventory site	19.7
578	Dunes Club	Narragansett	Washington	RI	NRHP-listed resource	19.8
329	Life Saving Station at Narragansett Pier	Narragansett	Washington	RI	NRHP-listed resource	19.8
330	The Towers Historic District	Narragansett	Washington	RI	NRHP-listed resource	19.8
591	Narragansett Pier MRA	Narragansett	Washington	RI	NRHP-listed resource	19.8
328	The Towers/Tower Entrance of Narragansett Casino	Narragansett	Washington	RI	NRHP-listed resource	19.9
TCP-1	[redacted] TCP	[redacted]	[redacted]	MA	NRHP-eligible resource (BOEM determined)	20
343	Brownings Beach Historic District	South Kingstown	Washington	RI	NRHP-listed resource	21.8
444	Tarpaulin Cove Light	Gosnold	Dukes	MA	NRHP-listed resource	22.2
391	Clark's Point Light	New Bedford	Bristol	MA	NRHP-listed resource	24.6
390	Fort Rodman Historic District	New Bedford	Bristol	MA	NRHP-eligible resource (MHC determined)	24.6
392	Fort Taber Historic District	New Bedford	Bristol	MA	NRHP-listed resource	24.6
386	Butler Flats Light Station	New Bedford	Bristol	MA	NRHP-listed resource	25.6
389	744 Sconticut Neck Road	Fairhaven	Bristol	MA	MHC historic inventory site	25.9
449	Nobska Point Lighthouse	Falmouth	Barnstable	MA	NRHP-listed resource	28

Notes: MHC = Massachusetts Historical Commission, RIHPC = Rhode Island Historical Preservation & Heritage Commission.

ATTACHMENT 4 – LIST OF CONSULTING PARTIES

Table 1. Parties Invited to Participate in Section 106 Consultation

Participants in the Section 106 Process	Invited Consulting Parties
SHPOs and state agencies	Connecticut State Historic Preservation Office
	Connecticut Department of Economic and Community Development
	Rhode Island Historical Preservation & Heritage Commission
	New York State Division for Historic Preservation
	Massachusetts Historical Commission
	Massachusetts Board of Underwater Archaeological Resources
	Massachusetts Commissioner on Indian Affairs
	Rhode Island Department of Environmental Management
Federal agencies	National Park Service (NPS)
	National Oceanic and Atmospheric Administration – Habitat and Ecosystem Services Division
	U.S. Army Corps of Engineers, New England District
	U.S. Army Corps of Engineers, New York District
	Office of the Deputy Assistant Secretary of the Navy for Environment (DASN(E))
	Chief of Naval Operations, Installations Division
	Naval Facilities Engineering Systems Command Headquarters– Cultural Resources
	Naval History and Heritage Command – Underwater Archaeology Branch
	Bureau of Safety and Environmental Enforcement
	U.S. Department of Defense - Office of the Deputy Assistant Secretary of Defense (Environment), Environmental Compliance and Planning
	U.S. Department of Defense - Office of the Assistant Secretary of Defense for Sustainment
	Advisory Council on Historic Preservation
	U.S. Coast Guard -Sector SE New England
	U.S. Coast Guard - Marine Transportation Systems (CG-5PW)
	U.S. Coast Guard – First Coast Guard District
	U.S. Fish and Wildlife Service
	Environmental Protection Agency
	Federal Aviation Administration
Federally recognized Tribal Nations	Mashpee Wampanoag Tribe

Participants in the Section 106 Process	Invited Consulting Parties
	Shinnecock Indian Nation
	Mashantucket (Western) Pequot Tribal Nation
	Wampanoag Tribe of Gay Head (Aquinnah)
	Mohegan Tribe of Indians of Connecticut
	Narragansett Indian Tribe
	Delaware Tribe of Indians
	The Delaware Nation
Non-federally recognized Tribal Nations	Chappaquiddick Tribe of Wampanoag Nation
	The Golden Hill Paugussett
	Eastern Pequot Tribal Nation
	Schaghticoke Tribal Nation
	Unkechaug Nation
Local governments	Cape Cod Commission
	City of Newport
	County of Dukes (MA)
	Town of Charlestown
	Town of East Hampton
	Town of Middletown
	Town of Nantucket
	Nantucket Planning & Economic Development Commission
	Town of Narragansett
	Town of North Kingstown
	City of Cranston
	City of East Providence
	City of Fall River
	City of New Bedford
	City New Bedford Historical Commission
	City of Providence
	City of Rehoboth
	City of Taunton
	County of Barnstable (MA)
	County of Bristol (MA)
	County of Plymouth (MA)
	County of Suffolk (NY)
	Town of Acushnet
	Town of Aquinnah
	Town of Barnstable
	Town of Barrington
	Town of Berkley

Participants in the Section 106 Process	Invited Consulting Parties
	Town of Bourne
	Town of Bristol
	Town of Chilmark
	Town of Coventry
	Town of Dartmouth
	Town of Dighton
	Town of East Greenwich
	Town of Edgartown
	Town of Exeter
	Town of Fairhaven
	Town of Falmouth
	Town of Freetown
	Town of Gosnold
	Town of Griswold
	Town of Groton
	Town of Hopkinton
	Town of Jamestown
	Town of Johnston
	Town of Lakeville
	Town of Ledyard
	Town of Little Compton
	Town of Marion
	Town of Mashpee
	Town of Mattapoisett
	Town of Middleborough
	Town of Nantucket
	Town of New Shoreham
	Town of North Stonington
	Town of Oak Bluffs
	Town of Portsmouth
	Town of Richmond
	Town of Rochester
	Town of Sandwich
	Town of Scituate
	Town of Seekonk
	Town of Somerset
	Town of South Kingstown
	Town of South Kingstown Historic District Commission

Participants in the Section 106 Process	Invited Consulting Parties
	Town of Southold
	Town of Stonington
	Town of Swansea
	Town of Tisbury
	Town of Tiverton
	Town of Tiverton Historic Preservation Advisory Board
	Town of Voluntown
	Town of Wareham
	Town of Warren
	Town of Warwick
	Town of West Greenwich
	Town of West Tisbury
	Town of West Tisbury Historic District Commission
	Town of West Warwick
	Town of Westerly
	Town of Westport
	Town of Westport Historical Commission
Non-governmental organizations or groups	Alliance to Protect Nantucket Sound
	Balfour Beatty Communities
	Beavertail Lighthouse Museum Association
	Block Island Historical Society
	Bristol Historical and Preservation Society
	Butler Flats Lighthouse (Mass Light Ltd)
	Clambake Club of Newport
	Cuttyhunk Historical Society
	East Greenwich Historic Preservation Society
	Friends of Sakonnet Light
	Gay Head Lighthouse Advisory Committee
	Martha's Vineyard Commission
	Montauk Historical Society
	Newport Historical Society
	Newport Restoration Foundation
	Norman Bird Sanctuary
	Preservation Massachusetts
	Rhode Island Historical Society
	Salve Regina University
	Southeast Lighthouse Foundation
	The Preservation Society of Newport County
	Revolution Wind, LLC (lessee)

Table 2. Consulting Parties Participating in Section 106 Consultation

Participants in the Section 106 Process	Participating Consulting Parties
SHPOs and state agencies	Connecticut State Historic Preservation Office
	Connecticut Department of Economic and Community Development
	Rhode Island Historical Preservation & Heritage Commission
	New York State Division for Historic Preservation
	Massachusetts Historical Commission
	Rhode Island Department of Environmental Management
Federal agencies	NPS
	U.S. Army Corps of Engineers, New England District
	U.S. Army Corps of Engineers, New York District
	Office of the Deputy Assistant Secretary of the Navy for Environment (DASN(E))
	Chief of Naval Operations, Installations Division
	Naval Facilities Engineering Systems Command Headquarters–Cultural Resources
	Naval History and Heritage Command – Underwater Archaeology Branch
	U.S. Department of Defense - Office of the Deputy Assistant Secretary of Defense (Environment), Environmental Compliance and Planning
	U.S. Department of Defense - Office of the Assistant Secretary of Defense for Sustainment
	Advisory Council on Historic Preservation
	U.S. Coast Guard -Sector SE New England
	U.S. Coast Guard - Marine Transportation Systems (CG-5PW)
	Bureau of Safety and Environmental Enforcement
	Environmental Protection Agency
	Federal Aviation Administration
Federally recognized Tribal Nations	Mashpee Wampanoag Tribe
	Shinnecock Indian Nation
	Mashantucket (Western) Pequot Tribal Nation
	Wampanoag Tribe of Gay Head (Aquinnah)
	Mohegan Tribe of Indians of Connecticut
	Narragansett Indian Tribe
	Delaware Tribe of Indians
	The Delaware Nation
Non-federally recognized Tribal Nations	Chappaquiddick Tribe of Wampanoag Nation
	Unkechaug Nation
Local governments	City of Newport
	County of Dukes (MA)
	Town of Charlestown
	Town of East Hampton
	Town of Little Compton

Participants in the Section 106 Process	Participating Consulting Parties
	Town of Middletown
	Town of Nantucket
	Nantucket Planning & Economic Development Commission
	Town of Narragansett
	Town of North Kingstown
	Town of New Shoreham
Nongovernmental organizations or groups	Block Island Historical Society
	Clambake Club of Newport
	Friends of Sakonnet Light
	Gay Head Lighthouse Advisory Committee
	Newport Restoration Foundation
	Norman Bird Sanctuary
	The Preservation Society of Newport County
	Rhode Island Historical Society
	Salve Regina University
	Southeast Lighthouse Foundation
	Revolution Wind, LLC (lessee)

Table 3. Parties Invited to Consult under Section 106 and that Did Not Participate Consultation

Invited Parties to the Section 106 Process	Non-Participating, Invited Parties
SHPOs and state agencies	Massachusetts Board of Underwater Archaeological Resources
	Massachusetts Commissioner on Indian Affairs
Federal agencies	U.S. Fish and Wildlife Service
	National Oceanic and Atmospheric Administration – Habitat and Ecosystem Services Division
Non-federally recognized Tribal Nations	The Golden Hill Paugussett
	Eastern Pequot Tribal Nation
	Schaghticoke Tribal Nation
Local Government	Cape Cod Commission
	City of Cranston
	City of East Providence
	City of Fall River
	City of New Bedford and its Historical Commission
	City of Providence
	City of Rehoboth
	City of Taunton
	County of Barnstable (MA)
	County of Bristol (MA)
	County of Plymouth (MA)
	County of Suffolk (NY)
	Town of Acushnet
	Town of Aquinnah
	Town of Barnstable

Invited Parties to the Section 106 Process	Non-Participating, Invited Parties
	Town of Barrington
	Town of Berkley
	Town of Bourne
	Town of Bristol
	Town of Chilmark
	Town of Coventry
	Town of Dartmouth
	Town of Dighton
	Town of East Greenwich
	Town of Edgartown
	Town of Exeter
	Town of Fairhaven
	Town of Falmouth
	Town of Freetown
	Town of Gosnold
	Town of Griswold
	Town of Groton
	Town of Hopkinton
	Town of Jamestown
	Town of Johnston
	Town of Lakeville
	Town of Ledyard
	Town of Little Compton
	Town of Marion
	Town of Mashpee
	Town of Mattapoisett
	Town of Middleborough
	Town of North Stonington
	Town of Oak Bluffs
	Town of Portsmouth
	Town of Richmond
	Town of Rochester
	Town of Sandwich
	Town of Scituate
	Town of Seekonk
	Town of Somerset
	Town of South Kingstown and Historic District Commission
	Town of Southold
	Town of Stonington
	Town of Swansea
	Town of Tisbury
	Town of Tiverton and Historic Preservation Advisory Board
	Town of Voluntown
	Town of Wareham
	Town of Warren

Invited Parties to the Section 106 Process	Non-Participating, Invited Parties
	Town of Warwick
	Town of West Greenwich
	Town of West Tisbury and Historic District Commission
	Town of West Warwick
	Town of Westerly
	Town of Westport and Historical Commission
Nongovernmental Organizations or Groups	Alliance to Protect Nantucket Sound
	Balfour Beatty Communities
	Beavertail Lighthouse Museum Association
	Bristol Historical and Preservation Society
	Butler Flats Lighthouse (Mass Light Ltd)
	Cuttyhunk Historical Society
	East Greenwich Historic Preservation Society
	Martha's Vineyard Commission
	Montauk Historical Society
	Newport Historical Society
	Preservation Massachusetts

ATTACHMENT 5 –MITIGATION FUNDING OPTIONS PROPOSED BY SIGNATORIES AND CONSULTING PARTIES

ATTACHMENT 5 – MITIGATION FUNDING AMOUNTS PROPOSED BY SIGNATORIES AND CONSULTING PARTIES

The mitigation measures proposed in Stipulation III have been developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archaeology, History, Architectural History, and/or Architecture (36 CFR 61) and are based on input from consulting parties. The proposed mitigation measures consider the nature, scope, and magnitude of adverse effects caused by the Project, the qualifying characteristics of each historic property that would be affected. The funding amounts that follow were considered by signatories, invited signatories, and consulting parties for historic properties mitigation measures based on budgets proposed by lessee for each mitigation effort. Revolution Wind would provide a total of $9,246,000 to support mitigation of adverse effects from the Project as described in the MOA, of which $3,873,000 would be placed in escrow to provide a mitigation fund as described under Stipulation III.C.6. These budgets are good-faith estimates, based on the experience of these qualified consultants with similar activities and comparable historic properties. The proposed level of funding is appropriate to accomplish the identified preservation goals and result in meaningful benefits to the affected properties, resolving adverse effects. Therefore, the funding amounts indicated here for activities required by the MOA represent the maximum amounts the Lessee is required to spend to fund these activities.

- Marine APE
    - $2,178,000 for mitigation to resolve adverse effects at the nine ASLFs (Targets 21-26 and Targets 28 through 30), including:
        - Pre-construction geoarchaeology
        - Marine Survey Vessel Tenders
        - GIS development
        - Tribal participation.

- [redacted] TCP
    - $1,300,000 to the consulting federally recognized Native American Tribes for mitigation to resolve adverse effects at the TCP, including:
        - $75,000 for [redacted]
        - $200,000 to the [redacted] and $300,000 to the [redacted] for Scholarships and Training for Tribal Resource Stewardship
        - $300,000 to the [redacted] and $300,000 to the [redacted] for Coastal Resilience and Habitat Restoration
        - $75,000 for Archaeological and Cultural Sites Data Compilation and GIS Database
    - $50,000 to the [redacted] for mitigation to resolve adverse effects at the TCP, including the public interpretation of interconnected marine cultural landscapes.

- [redacted] TCP, [redacted], MA
    - $275,000 for mitigation to resolve adverse effects at the TCP including:
        - $25,000 for a GIS database of the contributing resources to the TCP

        - $100,000 for Interpretative materials to educate the public on the TCP
        - $150,000 for Climate adaptation planning study for the TCP.

- [redacted] #1 and [redacted] #2, North Kingstown, RI
    - $390,000 for mitigation to resolve adverse effects including Phase III Data Recovery at the Sites, including Tribal participation.

- Aquinnah, MA
    - $350,000 for mitigation to resolve adverse effects to the Gay Head Light by providing a financial contribution towards the completion of physical repairs and/or restoration planned by the Gay Head Lighthouse Advisory Board.
    - $250,000 for mitigation to resolve adverse effects to the Gay Head - Aquinnah Town Center Historic District, the Edwin D. Vanderhoop Homestead, the Gay Head – Aquinnah Shops Area, 71 Moshup Trail, the Leonard Vanderhoop House, the Tom Cooper House, the Theodore Haskins House, the Stone wall boundary system, and 3 Windy Hill Drive including providing Americans with Disabilities Act (ADA) compliant access at the Gay Head – Aquinnah Shops Area and the weatherization of the Edwin D. Vanderhoop Homestead.

- Middletown, RI
    - $125,000 for the mitigation to resolve adverse effects to the Bluff/John Bancroft Estate, the Bailey Farm, the Clambake Club of Newport, the Paradise Rocks Historic District, the Sea View Villa, the St. George's School: Church of St. George, Little Chapel, and Memorial Schoolhouse, the Indian Avenue Historic District, and Whetstone including updating the existing *Historic and Architectural Resources of Middletown, Rhode Island: A Preliminary Report* and for Support of the Ongoing Maintenance and Aesthetic Improvements to the Third Beach Road and Hanging Rocks Road through Stone Wall Preservation and Observation Trails within the Paradise Rocks Historic District.

Based on consultation with RIHPHC also referred to as the Rhode Island SHPO in the MOA, the below mitigation measures to resolve adverse effects, in combination with the other mitigation measures identified in this MOA Attachment, will be funded and implemented for the following historic properties:

- Little Compton, RI
    - $60,000 for the mitigation of adverse effects to the Tunipus Goosewing Farm, the Warren's Point Historic District, the Abbott Phillips House, and the Stone House Inn through the development of National Register of Historic Places (NRHP) nominations.

- Narragansett, RI
    - $50,000 for the mitigation of adverse effects to the Fort Varnum/Camp Varnum, Narragansett Pier MRA, the Life Saving Station at Narragansett Pier, the Towers Historic District, the Towers/Entrance of Narragansett Casino, Dunmere, and the Ocean Road

Historic District through an update to the existing *Historic and Architectural Resources of Middletown, Rhode Island*.

- New Shoreham, RI
    - $200,000 for the mitigation of adverse effects to the Champlin Farm Historic District, Mitchell Farm Historic District, Beacon Hill, Lewis-Dickens Farm, Lakeside Drive and Mitchell Lane, Indian Head Neck Road, Beach Avenue, Old Town and Center Roads, Corn Neck Road, Pilot Hill Road and Seaweed Lane, and the New Shoreham Historic District through the development of NRHP nominations.

- Newport, RI
    - $100,000 for the mitigation of adverse effects to the Ochre Point - Cliffs Historic District, and the Ocean Drive Historic District NHL through the development of updates to the Ochre Point-Cliffs Historic District NRHP nomination and the Ocean Drive Historic District NHL nomination.
    - $50,000 for the mitigation of adverse effects to the Bellevue Avenue Historic District NHL through the development of an update to the Bellevue Avenue Historic District NHL nomination.

- South Kingstown, RI
    - $25,000 for the mitigation of adverse effects to the Brownings Beach Historic District through the development of architectural surveys for the Matunuck and Green Hill neighborhoods.

- Tiverton, RI
    - $20,000 for the mitigation of adverse effects to the Puncatest Neck Historic District through the development of a NRHP nomination.

In consultation with BOEM, the consulting parties recommended a mitigation fund in lieu of previously considered mitigation measures (for a description of those previous measures see Draft Environmental Impact Statement [DEIS] Appendix J draft MOA and its attached draft HPTPs). Using the previously proposed mitigation measures (outlined below and from DEIS Appendix J), or specifically revised measures based on consultation with the consulting parties as a financial basis for the mitigation fund described in Stipulation III.C.

- Chilmark, MA
    - $50,000 for mitigation to resolve adverse effects to the Capt. Samuel Hancock and the Cap.t West Mitchell House, the Russell Hancock House, the Ernest Flanders House, Shop, and Barn, the Simon Mayhew House, and Flaghole through the development of a Hazard Mitigation Plan for Historic Properties.

- Dartmouth, MA
    - $15,000 for mitigation to resolve adverse effects to Salters Point through the development of a NRHP nomination form.

- Fairhaven, MA
    - $8,000 for mitigation to resolve adverse effects to 744 Sconticut Neck Road through the development of a NRHP nomination form.

- New Bedford, MA
    - $25,000 for mitigation to resolve adverse effects to Fort Rodman and the Fort Taber Historic District through the implementation of restoration or universal access per the *Fort Taber Park Master Plan*.

- West Tisbury, MA
    - $15,000 for mitigation to resolve adverse effects to the Scrubby Neck Schoolhouse through the development of an adaptive reuse plan or a landscape vegetation plan.

- Westport, MA
    - $15,000 for mitigation to resolve adverse effects to the Gooseberry Neck Observation Towers, the Gooseneck Causeway, the Westport Harbor, the Horseneck Point Lifesaving Station, the Clam Shack Restaurant, the Westport Point Historic District, the Westport Point Revolutionary War Properties, and the Westport Point Historic District through the development of a Historic Maritime Infrastructure Survey and Adaptive Use Guidance for historic wharves, docks, and buildings within the Westport Harbor and Westport Point historic districts.

- Jamestown, RI
    - $25,000 for the mitigation of adverse effects to Horsehead/Marbella through the development of Historic Architectural Building Survey (HABS) Level II Documentation.

- Little Compton, RI
    - $75,000 for the mitigation of adverse effects to the Tunipus Goosewing Farm, the Warren's Point Historic District, the Abbott Phillips House, and the Stone House Inn through the development of Interpretive Exhibits/Signage.

- Narragansett, RI
    - $100,000 for the mitigation of adverse effects to the Fort Varnum/Camp Varnum, Narragansett Pier MRA, the Life Saving Station at Narragansett Pier, the Towers Historic District, the Towers/Entrance of Narragansett Casino, Dunmere and the Ocean Road historic District through an assessment of the Ocean Road Seawall.

- New Shoreham, RI
    - $600,000 for the mitigation of adverse effects to the Block Island Southeast Lighthouse, NHL through cyclical maintenance activity and restoration.
    - $700,000 for the mitigation of adverse effects to the Island Cemetery/Old Burial Ground, the New Shoreham Historic District, the Old Harbor Historic District, the Capt. Mark L. Potter House, the Spring Cottage, the Spring House Hotel, Spring Street, the WWII

Lookout Tower – Spring Street, the Caleb W. Dodge Jr. House, the Capt. Noah Dodge House, the Capt. Welcome Dodge Sr. House, Pilot Hill Road and Seaweed Lane, the WWII Lookout Tower at Sands Pond, the Mohegan Cottage, the Lewis-Dickens Farm, the Miss Abby E. Vaill/1 of 2 Vaill cottages, the Hon. Julius Deming Perkins/"Bayberry Lodge", West Side and Grace Cove Roads, the Peleg Champlin House, Lakeside Drive and Mitchell Lane, the African American Settlement, the Nathan Mott Park, the Champlin Farm, Old Town and Center Roads, Beacon Hill , Beach Avenue, Indian Head Neck Road, Corn Neck Road, the Hippocampus/Boy's camp/Beane Family, the Mitchell Farm, the U.S. Coast Guard Brick House, the U.S. Lifesaving Station, the U.S. Weather Bureau Station, and the Hygeia House through implementation of the Coastal Resiliency Plan, and a town-wide NRHP Nomination.

- Newport, RI
    - $650,000 for the mitigation of adverse effects to the Ochre Point - Cliffs Historic District, the Kay St.-Catherine St.-Old Beach Rd. Hist. Dist. / The Hill, and the Ocean Drive Historic District NHL through the development of a Historic Property Owner Guidebook and the development of Stormwater Drainage Improvement Plans for the Historic Districts.
    - $800,000 for the mitigation of adverse effects to the Bellevue Avenue Historic District NHL, the Marble House NHL, Rosecliff / Oelrichs (Hermann) House / Mondroe (J. Edgar) House, and the Breakers NHL through ongoing maintenance, the development of a Resiliency Plan, and Invasive Species Maintenance Plan, a Volunteer Ambassador Program, and a Mobile Application for the Cliff Walk.

- South Kingstown, RI
    - $25,000 for the mitigation of adverse effects to the Brownings Beach Historic District through the development of a historic context for summer cottage and resort development in Rhode Island.

- Tiverton, RI
    - $20,000 for the mitigation of adverse effects to the Puncatest Neck Historic District through the development of a historic context for summer cottage and resort development in Rhode Island.

- Lighthouses in RI and MA
    - $750,000 for the mitigation of adverse effects to the below lighthouses through Assessment, Planning, Restoration, and Institutional Development:
        - Sakonnet Light Station, Little Compton, RI
        - Block Island North Lighthouse, New Shoreham, RI
        - Point Judith Lighthouse, Narragansett, RI
        - Beavertail Light, Jamestown, RI
        - Tarpaulin Cove Light, Gosnold, MA
        - Clark's Point Light, New Bedford, MA
        - Butler Flats Light Station, New Bedford, MA
        - Nobska Point Lighthouse, Falmouth, MA

ATTACHMENT 6 – HISTORIC PROPERTY TREATMENT PLAN FOR THE REVOLUTION WIND FARM ANCIENT SUBMERGED LANDFORM FEATURE, OUTER CONTINENTAL SHELF, FEDERAL AND RHODE ISLAND WATERS OF RHODE ISLAND SOUND

REDACTED – Includes Archaeological Site Location Information

Historic Property Treatment Plan

for the

Revolution Wind Farm

Ancient Submerged Landform Feature

Outer Continental Shelf, Federal and Rhode Island State Waters

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind | Powered by Ørsted & Eversource

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island State Waters
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Effect Finding for:	Ancient Submerged Landform Feature, Outer Continental Shelf and Rhode Island State Waters
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
ASLFs	Ancient Submerged Landform Features
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
DEIS	Draft Environmental Impact Statement
EDR	Environmental Design and Research, D.P.C.
FEIS	Final Environmental Impact Statement
FR	Federal Register
HPTP	Historic Property Treatment Plan
MARA	Marine Archaeological Resources Assessment
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
OCS	Outer Continental Shelf
PAPE	Preliminary Area of Potential Effect
QMA	Qualified Marine Archaeologist
RFP	Request for Proposals
ROD	Record of Decision
RWEC	Revolution Wind Export Cable
RWF	Revolution Wind Farm
SOI	Secretary of the Interior
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for Ancient Submerged Landform Features (ASLFs), which are recommended as eligible for listing on the National Register of Historic Places (NRHP), provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects identified in the *Marine Archaeological Resources Assessment* (MARA), dated February 2023 (SEARCH, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) Project (collectively, the Undertaking). Revolution Wind LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act of 1966 (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the *Marine Archaeological Resources Assessment – Revolution Wind Farm Project Construction and Operations Plan* (MARA; SEARCH, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic properties included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic properties are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic properties, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

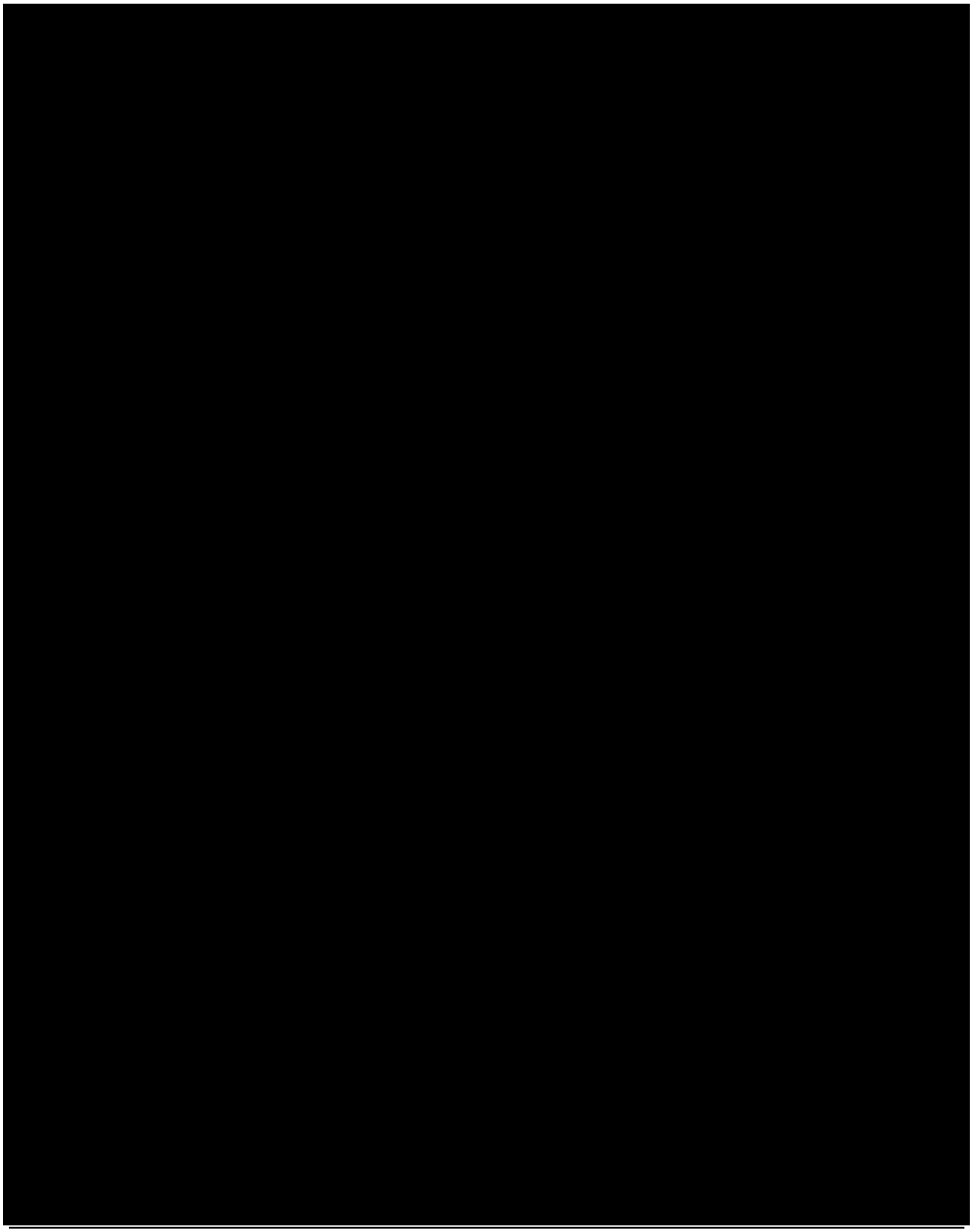
- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State waters, will connect the offshore substation to the electrical grid. Export cables will be buried below the seabed. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island.

Figure 2.1-1. Project Location



2.2 Section 106 of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of a ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking.

The measures to avoid and minimize adverse effects to identified historic properties are described in the MARA Report (SEARCH 2023). This HPTP addresses the treatment plans to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state, and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2, Organizational Responsibilities.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021, pursuant to Sections 106 of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM's initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic properties and invited the following parties:

- Mashantucket Pequot Tribal Nation;
- Mohegan Tribe of Indians;
- Narragansett Indian Tribe;
- Shinnecock Indian Nation;
- Wampanoag Tribe of Gay Head (Aquinnah);
- Mashpee Wampanoag Tribe; and
- Historical Chappaquiddick Tribe of the Wampanoag Nation.

3.0 EXISTING CONDITIONS AND HISTORIC SIGNIFICANCE

3.1 Historic Properties

This HPTP involves nine historic properties, as identified in Table 3.1-1 and located on Figure 3.1-1. Revolution Wind has committed to avoidance of impacts to Target 27 and Targets 31-33 during all phases of construction and operations.

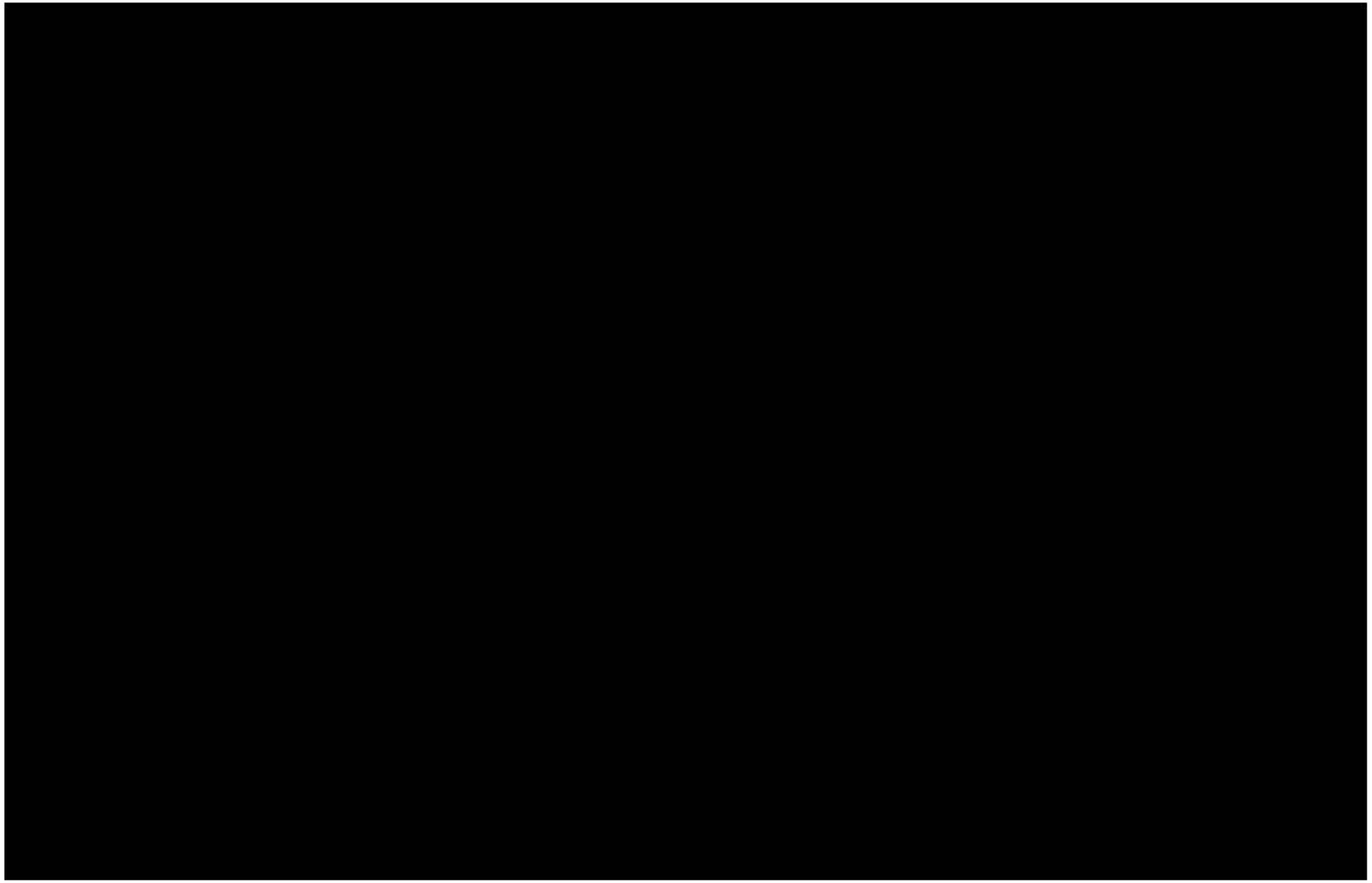
Table 3.1-1. Historic Properties included in the ASLF HPTP

Name	Municipality	State	Site No. (Agency)	Ownership
Target 21	N/A	RI	N/A	State waters
Target 22	N/A	RI	N/A	State waters
Target 23	N/A	N/A	N/A	Federal waters
Target 24	N/A	N/A	N/A	Federal waters
Target 25	N/A	N/A	N/A	Federal waters
Target 26	N/A	N/A	N/A	Federal waters
Target 28	N/A	N/A	N/A	Federal waters
Target 29	N/A	RI	N/A	State waters
Target 30	N/A	RI	N/A	State waters

Figure 3.1-1. Historic Property Location

Location of ASLFs ("Geomorphic Feature of Archaeological Interest") within Preliminary Area of Potential Effect (PAPE) – Sheet 1 of 5

Location of ASLFs ("Geomorphic Feature of Archaeological Interest") within PAPE – Sheet 2 of 5



Location of ASLFs ("Geomorphic Feature of Archaeological Interest") within PAPE – Sheet 3 of 5

Location of ASLFs ("Geomorphic Feature of Archaeological Interest") within PAPE – Sheet 4 of 5

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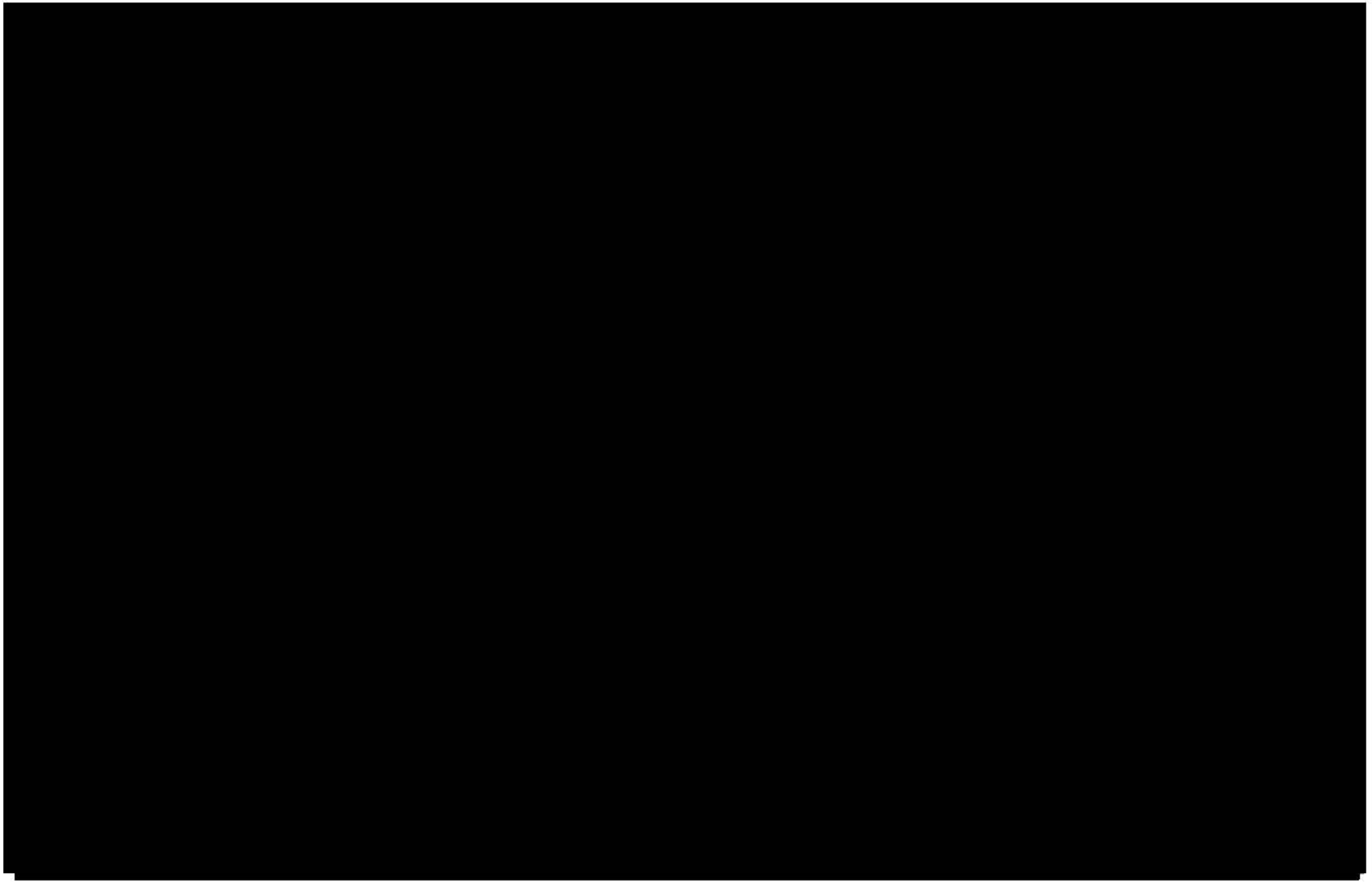

Location of ASLFs ("Geomorphic Feature of Archaeological Interest") within PAPE – Sheet 5 of 5

3.2 Ancient Submerged Landform Features (ASLFs)

3.2.1 Physical Description and Existing Conditions

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

3.2.2 Historic Context

Based on radiocarbon data collected for the MARA and detailed reconstructions of the paleolandscapes within the PAPE, the identified ASLFs included in this treatment plan are associated with terminal Pleistocene/Early Holocene drainage systems. Many of these fluvial networks likely represent incisions of the [redacted] (Cacciopolli, 2015). The potential indigenous use of the preserved landforms would likely have been restricted to a period between approximately 15,000 and 9150 cal. B.P. roughly correlating with the archaeologically defined Paleoindian Period and extending into the earliest phases of the antecedent Early Archaic Period. The younger age limit for archaeological sites that could be preserved at

each ASLF is based on marine transgression and would vary in specific timing depending on the elevation of each valley floor.

The dating program and interpretations suggest that each ASLF is associated with a stable terrestrial landform within an ancient valley that could have supported indigenous occupation or other activities. No direct evidence of human use of these locations has been recovered, but the settings of each are consistent with terrestrial locations used by indigenous peoples in the northeastern United States after 13,000 cal. B.P. Although direct evidence of indigenous settlements on the post-glacial OCS landscapes is currently lacking, paleoenvironmental reconstructions suggest the RWEC and RWF ASLFs are the types of locations where evidence of occupations might be expected. Current models for Paleoindian settlement and subsistence patterns indicate people living in the region between approximately 15,000 and 11,000 years ago were highly mobile. Reported Paleoindian site locations occur in a wide range of environmental settings, including river valleys and wetland margins comparable to those inferred at each ASLF.

It is important to note that very little is known about potential coastal adaptations during this time period. The submerged continental shelf contains the vast majority of coastal habitats that would have been available to people living in the region more than 15,000 years ago. Practical and technological challenges have limited the range of surveys that might yield direct evidence of now-submerged coastal sites. Where terminal Pleistocene or very early Holocene coastal sites have been identified elsewhere in North America, those sites have yielded different types of stone tools than typically associated with Paleoindian sites in the Northeast. As such, it is plausible that archaeological expressions of Pleistocene coastal occupations in the New England region may look quite different than their counterparts in the interior sections (now on the mainlands).

Further, each of the ASLFs is associated with a preserved element of the ancient terrestrial landscape that the consulting Native American tribes have identified as having traditional cultural significance. As shared with Revolution Wind by tribal representatives, several of the consulting tribes' traditions hold that their people have always been here. They did not migrate from ancient Asia or Europe or anywhere else. Their origins are rooted here, in the Northeast, and at the interface between the seas and lands. Important events in tribal histories occurred on the OCS and preserved elements of the ancient landscapes with which their ancestors and culture heroes interacted are important.

3.2.3 NRHP Criteria

Based on prior BOEM consultations for the South Fork Wind Farm and Vineyard Wind 1 Wind Farm undertakings and Revolution Wind's assessments, the identified ASLFs are potentially eligible for listing in the NRHP under Criterion D for their potential to yield important information about the indigenous settlement of the northeastern United States and development of coastal subsistence adaptations. Each ASLF may also be eligible for listing under Criterion A for their association with and importance in maintaining the cultural identities of multiple Native American tribes.

4.0 MITIGATION MEASURES

Mitigation measures at the historic properties are detailed in this section. The conceptual mitigation measures were developed in consultation with the Participating Parties by individuals who met Secretary of the Interior (SOI) Qualifications Standards for Archeology and/or History (62 FR 33708) and are appropriate to fully address the nature, scope, size, and magnitude of adverse effects including cumulative effects caused by the Project, and NRHP-qualifying characteristics of each historic property that would be affected.

Based on the commitment to establish a no-anchor zone encompassing Target-31 and the location of Targets 32 and 33 beneath the vertical limits of disturbance, no adverse effects to these three ASLF are anticipated. Target 27 will be avoided due to its location on the margin of the RWF and the South Fork Wind Farm. The measures developed to resolve potential adverse effects to the remaining ASLFs are summarized below.

4.1 Target 21 through Target 26 and Target 28 through Target 30

4.1.1 Preconstruction Geoarchaeology

4.1.1.1 Purpose and Intended Outcome

This mitigation measure will consist of the collection of vibracores within the affected portions of each ASLF prior to Project construction. The collected cores, the locations which will be selected in consultation with Native American tribes, will be analyzed in collaboration with the tribes to provide a more detailed understanding of ancient terrestrial landscapes along the RWEC and within the RWF and how such settings may have been used by Pleistocene-age indigenous peoples. Data acquired from this effort is expected to refine the age estimates for each stable landform, the timing and character of ecological transitions evidenced in the MARA report and provide an additional opportunity to recover evidence of ancient indigenous use of each ASLF.

This measure will provide for a more detailed analysis of the stratigraphy, chronology, and evolving ecological conditions at each ancient landform. Two separate reports on the analyses and interpretations will be developed. The first will be focused on content of specific interest the consulting tribes, including a broad approach to integrating available data collected from other recent archaeological research and surveys on the Atlantic OCS. The specific content and formatting of this report will be refined in consultation with the tribes to align the work product with intended intra- and inter-tribal audiences. The second report will be geared primarily toward technical, Tribal/State Historic Preservation Officer and agency audiences.

4.1.1.2 Scope of Work

The scope of work will consist of the following:

- Collaborative review of existing geophysical and geotechnical data with Native American tribes
- Selection of coring locations in consultation with tribes;
- Collection of two to three vibracores within each affected ASLF with a sampling focus on areas that will be disturbed by Project construction activities;

- Written verification to BOEM that the samples collected are sufficient for the planned analyses and consistent with the agreed scope of work;
- Collaborative laboratory analyses at a laboratory located in Rhode Island or Massachusetts;
- Screening of recovered sediments for debitage or micro-debitage associated with indigenous land uses;
- Third-party laboratory analyses, including micro- and macro-faunal analyses, micro- and macro-botanical analyses, radiocarbon dating of organic subsamples, and/or chemical analyses for potential indirect evidence of indigenous occupations;
- Temporary curation of archival core sections
- Draft reports for review by participating parties;
- Final reporting; and
- Public or professional presentations summarizing the results of the investigations, developed with the consent of the consulting tribes.

4.1.1.3 Methodology

Revolution Wind will conduct the Preconstruction Geoarchaeology in consultation with the participating parties. The research, analyses, and interpretations are intended to be a collaborative effort with the consulting tribes. The research will be conducted in collaboration with the consulting Native American tribes, who will be invited by Revolution Wind to series of working sessions to:

- Review existing data;
- Develop specific research questions addressing the tribes' interests in the ASLF;
- Select candidate coring locations;
- Split, document, and sample recovered vibracores in the laboratory;
- Review analytic results and preliminary interpretations; and
- Review draft reporting.

Vibracores placed within the affected sections of each ASLF will extend a maximum depth of approximately 20 feet (6 meters) below the sea floor. The cores will be cut on the survey vessel into approximately 1-meter-long sections and sealed to minimize the risk of environmental contamination. The core segments will be logged on the survey vessel and a chain of custody will be maintained to ensure all samples are accounted for and that all samples are transferred to the laboratory for geoarchaeological analyses. Once the core segments are transferred to the Qualified Marine Archaeologist (QMA), Revolution Wind will invite tribal representatives to participate in the splitting, documentation, and subsampling of each core, if feasible due to COVID-19 restrictions. Each core segment will be split longitudinally into working and archival halves. Subsamples collected from working halves for specific third-party analyses will be packaged in a manner appropriate to the specific analysis for which they are intended. Archival halves will be sealed and stored horizontally on shelves or racks in a climate-controlled facility for at least one year following completion of laboratory analyses. Revolution Wind will prioritize reasonable access to archival core segments by Consulting Parties when selecting the storage facility. All samples collected from the working halves will be submitted to third party laboratories within approximately 6 months of core transfer to the QMA facilities.

As an option, both halves of the core may be consumed to extract the highest amount of quality data possible. This option will be determined through coordination with any participating tribes/tribal nations.

Revolution Wind will prepare a presentation of the preliminary results and interpretations for discussion with the Tribes (see work session schedule above). Revolution Wind will consider the Tribes' comments and suggestions when preparing the draft reports and will seek to resolve any disagreements among the parties through supplemental consultations prior to preparing the draft reports.

Revolution Wind will submit the draft reports to the participating parties for review and comment. Revolution Wind will consider all comments received when developing the final reports. Final digital copies of the completed reports will be provided to all participating parties. Hard copies of the final reports will be submitted to the State Historic Preservation Officers, tribes or other parties upon request.

Following the one-year retention period, Revolution Wind will offer transfer of the archival core segments to the Consulting Tribes, SHPOs and related state agencies, and regional research institutions with an interest in and capacity to conduct further analyses. Revolution Wind currently anticipates research institutions with potential interests/capacities to include the University of Rhode Island, University of Connecticut, and Eastern Connecticut State University. Revolution Wind will notify the Consulting Parties of its intent to transfer archival core segments to any party at least 45 days prior to initiating such transfer and will consider any comments provided by Consulting Parties before proceeding. If no external parties agree to accept the archival core segments, Revolution Wind will water-screen the retained segments to identify and collect potential physical evidence of ancient Native American activity at the ASLFs. In such circumstances, Revolution Wind will prepare a technical memorandum summarizing the results of the archival core segment processing and analyses and submit that memorandum to the Consulting Parties.

4.1.1.4 Standards

The Preconstruction Geoarchaeology effort will be conducted in accordance with BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (May 2020). The QMA leading the research will meet the SOI professional qualification standards for archeology (62 FR 33708) and BOEM's standards for QMAs.

4.1.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- Draft Tribal Audience Report;
- Draft Technical Report;
- Final Tribal Audience Report;
- Final Technical Report; and
- Draft Public or Professional Presentations.

4.1.1.6 Curation

The geoarchaeological collections associated with the ASLF investigations will be curated at the Public Archaeology Laboratory (PAL) facility at 26 Main Street, Pawtucket, Rhode Island. PAL is an approved curatorial facility under specific project permits issued by the Rhode Island RIHPHC and the Massachusetts Historical Commission (MHC) for collections originating in Rhode Island and Massachusetts. PAL currently curates multiple collections for state and federal agencies in accordance with all applicable state and federal standards. The curation section of the laboratory is inspected regularly by state and federal agencies to ensure the proper maintenance of the cultural materials entrusted to PAL's care.

PAL is an approved institution for curating cultural materials and project-related documentation according to the Code of Federal Regulations 36 CFR 79 (Curation of Federally-Owned and Administered Archeological Collections). Laboratory employees are experienced with the curation protocols of many states and federal agencies and the current standards for curation practices as set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Federal Register 44716–44742, 1983). The Laboratory Manager is a Registered Professional Archaeologist (RPA) and follows the Code of Conduct for that organization as well as the principles of archaeological ethics specified by the Society of American Archaeology and the Society for Historical Archaeology.

4.1.1.7 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

4.1.2 Open-Source GIS and Story Maps

4.1.2.1 Purpose and Intended Outcome

This mitigation measure will consist of the compilation and transfer of relevant geophysical, geotechnical, and geoarchaeological datasets pertaining to the ASLFs to a non-proprietary GIS system for use by Native American tribes. The datasets will include sub-bottom (seismic) data used to characterize the seabed and ASLFs, the location of all geotechnical/geoarchaeological samples collected, and the vertical and horizontal extents of the affected features or sub-features within each ASLF. The GIS will be, to the extent feasible and practicable, compatible with GIS datasets compiled for other OCS projects to assist in the tribes' on-going research and stewardship efforts. Story Maps or equivalent digital media presentations will be prepared to integrate and present the complex technical data compiled during the MARA and mitigation investigations in a manner best suited for inter- and intra-tribal audiences. Story Map content would be developed in close consultation and collaboration with the consulting Native American tribes.

Incorporation of Revolution Wind datasets into a broader GIS framework will allow the tribes to better understand and protect preserved elements of the ASLFs. The intent of this measure is to enhance the Tribes understanding of existing conditions for a range of ASLFs located in the northeastern Atlantic OCS. This knowledge would allow for more effective Government to Government consultations regarding similar features that may be affected by future federal undertakings. The value of the GIS will increase as additional

datasets are acquired and incorporated. Access to the GIS will support each Tribes' capacity to pursue their own research or intra-tribal educational programs related to the OCS and traditional cultural uses of the now-submerged landscapes of their ancestors. The combined MARA and Preconstruction Geoarchaeology investigations will provide an important perspective on the preservation of ASLFs within formerly glaciated sections of the OCS and within the footprint of former glacial lakes. Integrated GIS that can accommodate datasets collected from other OCS development projects and surveys would allow for comparisons to areas south of the maximum glacial limits on the OCS to provide a more comprehensive view of the ancient landscapes within the region. Revolution Wind will provide reasonable compensation to tribal representative working with Revolution Wind on implementation of this measure. Story Maps created within the GIS will provide a flexible approach to incorporating media from a variety of sources, including geospatial data, interviews with traditional knowledge-holders, photographs, audio recordings, and archival cartography for a compelling interpretive experience. Story Maps can be tailored for specific tribal audiences and uses and would be developed in consultation with the consulting tribes.

4.1.2.2 Scope of Work

The scope of work will consist of the following:

- Consultation with the Tribes to determine the appropriate open-source GIS platform;
- Review of candidate datasets and attributes for inclusion in the GIS;
- Data integration;
- Development of custom reports or queries to assist in future research or tribal maintenance of the GIS;
- Work Sessions with Tribes to develop Story Map content;
- Training session with Tribes to review GIS functionality;
- Review of Draft Story Maps with Tribes;
- Delivery of GIS to Tribes; and
- Delivery of Final Story Maps.

4.1.2.3 Methodology

Revolution Wind will develop the GIS in consultation with the Participating Parties. At least one work session will be scheduled to refine specific functionality of interest to the Tribes. That session will be conducted after the preliminary data analyses for the Preconstruction Geoarchaeology effort has been completed. This will allow for a more focused walk-through of the data and options for organizing and integrating different datasets. Revolution Wind will request from the Tribes details on any existing open-source GIS systems currently in use by each Tribe to minimize any issues with data integration or interoperability. Once the work session has been conducted Revolution Wind will proceed with development of the GIS, taking into account the Tribes' comments and suggestions. The draft GIS system will be shared with the Tribes in a training session that presents the functions of the GIS and familiarizes the tribal representatives with the interfaces, data organization, and any custom features developed to enhance useability. Revolution Wind will consider any feedback from the Tribes on the draft GIS before proceeding with finalizing the system design and implementation. Revolution Wind will provide the GIS to the Tribes by physical storage media

or as a secure digital file transfer, as appropriate to each Tribes IT infrastructure and preference. Revolution Wind does not intend to be responsible for the upkeep of the GIS database.

Story Map content will be developed with the consulting Tribes through one or more scheduled work sessions. Potential options for content intended for youth audiences, tribal governments, and/or general tribal membership will be discussed to refine the conceptual framework and develop draft Story Maps for review by the Tribes. Revolution Wind will consider all comments and feedback provided by the Tribes when preparing the final Story Maps.

4.1.2.4 Standards

The GIS developed under this measure will be free to use and free to modify by the tribes. To the extent feasible, all data will be provided in formats that allow for interoperability with other GIS platforms that the tribes may use. All datasets incorporated in the GIS will comply with Federal Geographic Data Committee data and metadata standards.

4.1.2.5 Documentation

Revolution Wind will provide draft descriptions and documentation of the GIS for review by the Participating Parties and will provide a description of the draft Story Maps to the consulting Tribes following the initial working sessions.

The following documentation is to be provided for review by Participating Parties:

- Draft Description of the GIS with appropriate schema, data organization, and custom reports/queries;
- Draft Story Map descriptions with details on content, formatting, and intended audiences; and
- Final Technical Description of the GIS with schema, data organization, and custom reports/queries.

4.1.2.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

5.2.2 Revolution Wind, LLC

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.3 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

and consultation meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.

6.0 REFERENCES

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ATTACHMENT 7 – HISTORIC PROPERTY TREATMENT PLAN FOR THE REVOLUTION WIND FARM, THE [redacted] #1 AND #2 SITES, TOWN OF NORTH KINGSTOWN, WASHINGTON COUNTY, RHODE ISLAND

REDACTED

Historic Property Treatment Plan

for the

Revolution Wind Farm

[redacted]

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind | Powered by Ørsted & Eversource

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

Environmental Design & Research, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Physical Effect Finding for:	[redacted]
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
cmbgs	centimeters below ground surface
COP	Construction and Operations Plan
EDR	Environmental Design and Research, D.P.C.
FEIS	Final Environmental Impact Statement
FR	Federal Register
HPTP	Historic Property Treatment Plan
MOA	Memorandum of Agreement
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
QDC	Quonset Development Corporation
RFP	Request for Proposals
RIHPHC	Rhode Island Historical Preservation & Heritage Commission
RI SHPO	Rhode Island State Historic Preservation Officer
ROD	Record of Decision
RWF	Revolution Wind Farm
STP	shovel test pit
THPO	Tribal Historic Preservation Officer
USCG	United States Coast Guard
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for two archaeological historic properties, [redacted] (the historic properties) provides background data, resource-specific information, and detailed steps that will be implemented to carry out the mitigation actions in the *Terrestrial Archaeological Resources Assessment and Site Identification Survey, Revolution Wind Farm Project, Onshore Facilities* (TARA) dated February 2023 (PAL, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind, LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve potential adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

Pursuant to the terms and conditions of the MOA, Revolution Wind will implement these mitigation measures.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the *Historic Resources Visual Effects Analysis – Revolution Wind Farm* (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions and Historic Significance**, provides a physical description of the historic properties included in this HPTP. Set within its historic context, the applicable NRHP criteria

for the historic properties are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.
- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic properties, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

- **Section 6.0, References**, is a list of works cited in this HPTP.

- **Attachment A,** [redacted]

- **Attachment B,** [redacted]

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Onshore Facilities Regional Location

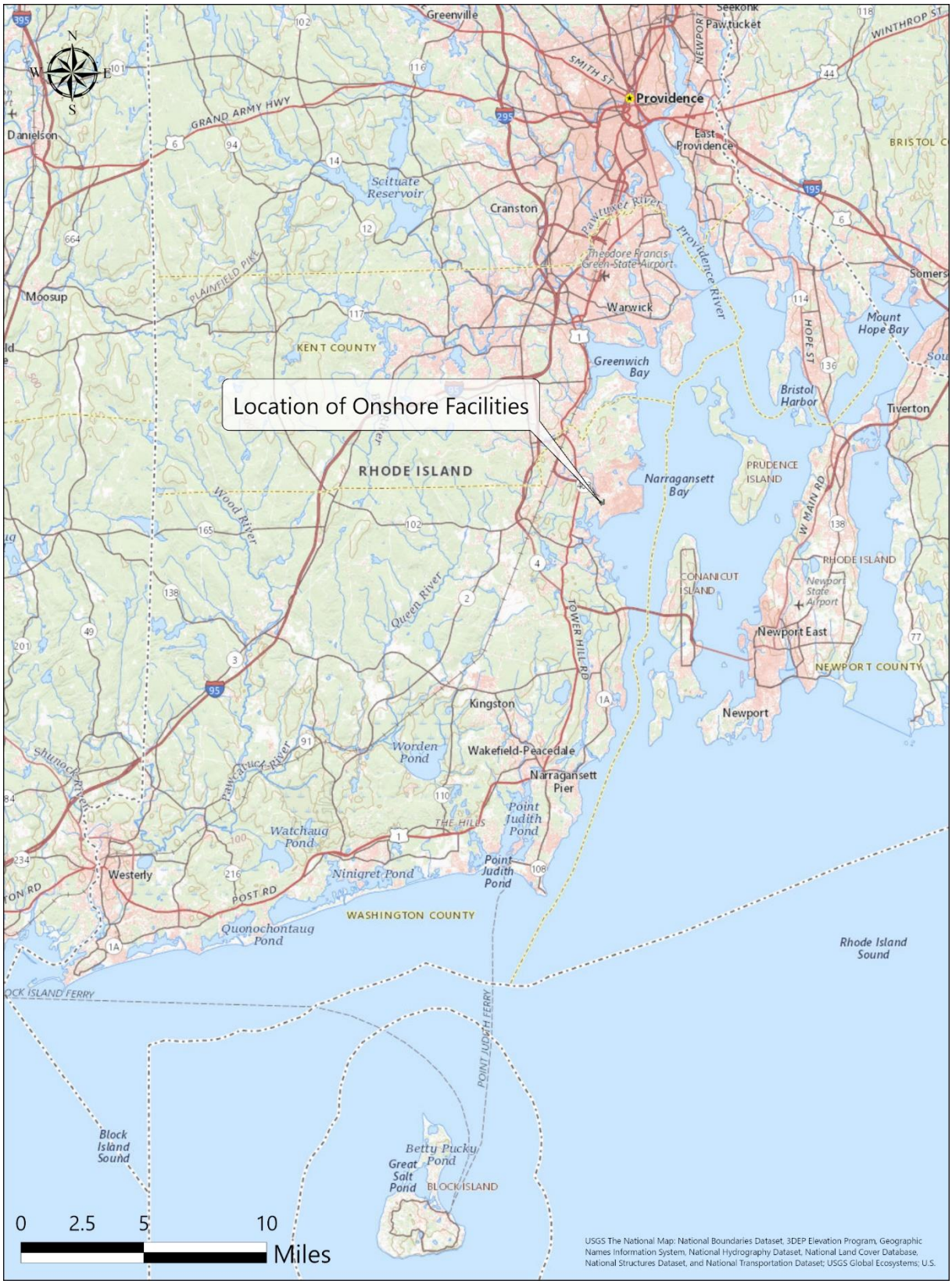
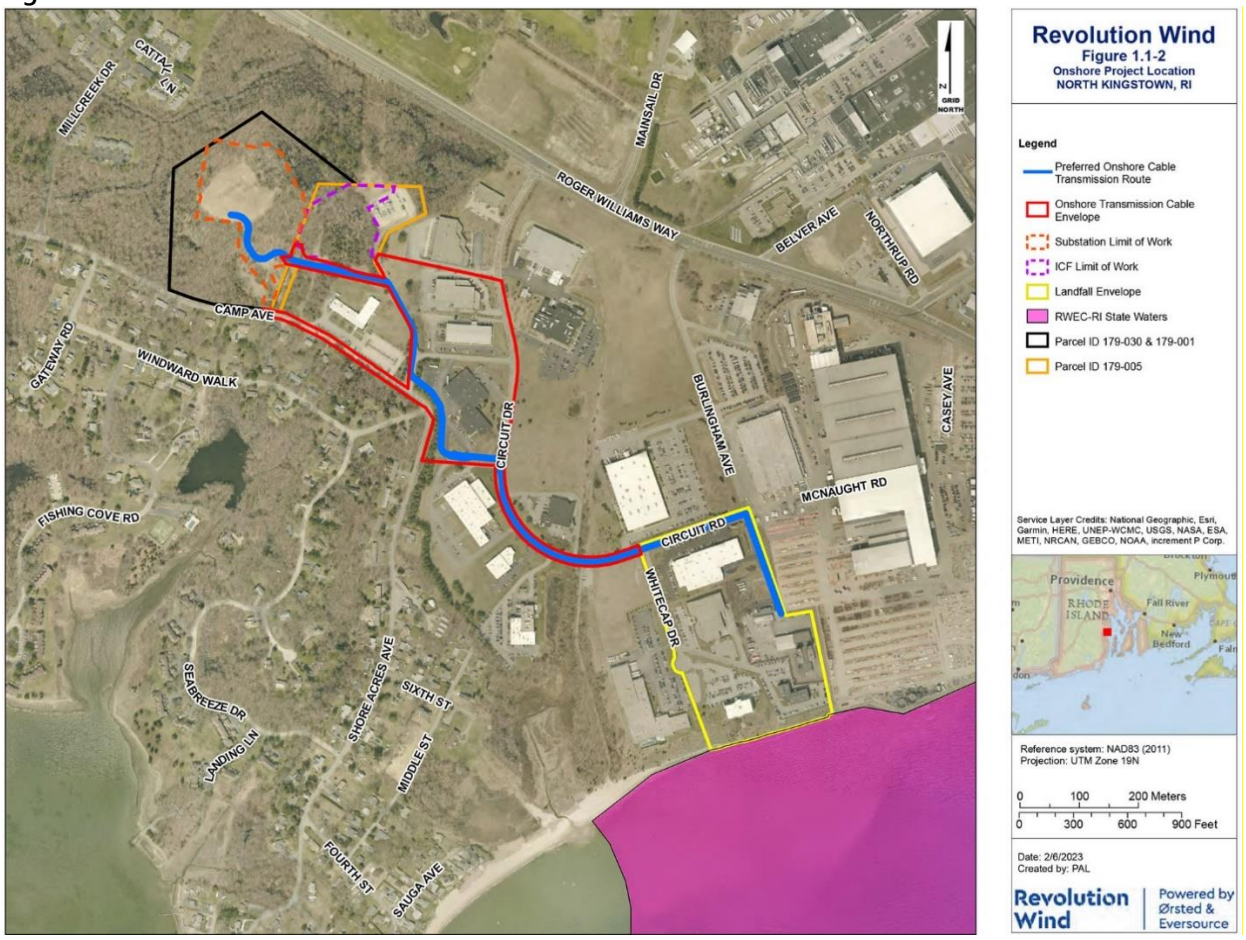


Figure 2.1-2. Onshore Facilities Overview



2.2 Section 106 and Section 110(f) of the National Historic Preservation Act

This HPTP was developed in accordance with the TARA and COP and reflects consultations conducted by BOEM with multiple consulting parties, including the Rhode Island State Historic Preservation Officer (RI SHPO), the Narragansett Indian Tribe, Wampanoag Tribe of Gay Head/Aquinnah, Mashpee Wampanoag, Shinnecock Indian Nation and Mashantucket Pequot Historic Preservation Offices (THPOs). The regulations at 36 CFR § 800.8 provide for use of the National Environmental Policy Act (NEPA) process to fulfill a Federal agency's National Historic Preservation Act (NHPA) Section 106 review obligations in lieu of the procedures set forth in 36 CFR § 800.3 through 800.6. Under these provisions, issuance of a Record of Decision (ROD) and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the National Historic Preservation Act.

The measures to avoid and minimize adverse effects to identified historic properties are described in the *Terrestrial Archaeological Resources Assessment and Site Identification Survey*.

This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind. That framework identified the following measures as appropriate means of resolving adverse effects to [redacted]

a. Phase III Data recovery investigations to document and recover critical information regarding the ancient Native American use of the impacted sites.
    i. All excavations will be conducted under a permit issued by the Rhode Island Historical Preservation & Heritage Commission.
    ii. Excavations are intended to extend over approximately 20% of the affected section of each site.
    iii. The research design and specific research questions to be addressed through field research and laboratory analyses have been developed in consultation with the consulting Native American Tribes.
    iv. Representatives from the consulting Native American Tribes will be invited to monitor the field investigations and participate in the interpretation of data collected.
b. Technical reports for peer review and dissemination of data at professional conferences/publications will be produced at the conclusion of the field investigations.
c. An Archaeological Construction Monitoring Plan developed to ensure that impacts to the areas of the [redacted] to be protected do not occur during ground disturbing activities.
d. A Historic Property Archaeological Protection Plan to be developed following Phase III data recovery to ensure that protection measures are carried out during ongoing Operations and Maintenance of the Project.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its Record of Decision (ROD) and with applicable state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2 – Organizational Responsibilities.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021, and additional meetings pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic property and invited the following parties:

- RI SHPO;

- The Narragansett Indian Tribe THPO;
- The Wampanoag Tribe of Gay Head/Aquinnah THPO;
- The Mashpee Wampanoag Tribe THPO;
- The Mashantucket Pequot Tribal Nation THPO; and
- The Shinnecock Indian Nation THPO.

This HPTP provides details and specifications for mitigation measures to resolve the adverse effects within the APE for the [redacted]

3.0 EXISTING CONDITIONS AND HISTORIC SIGNIFICANCE

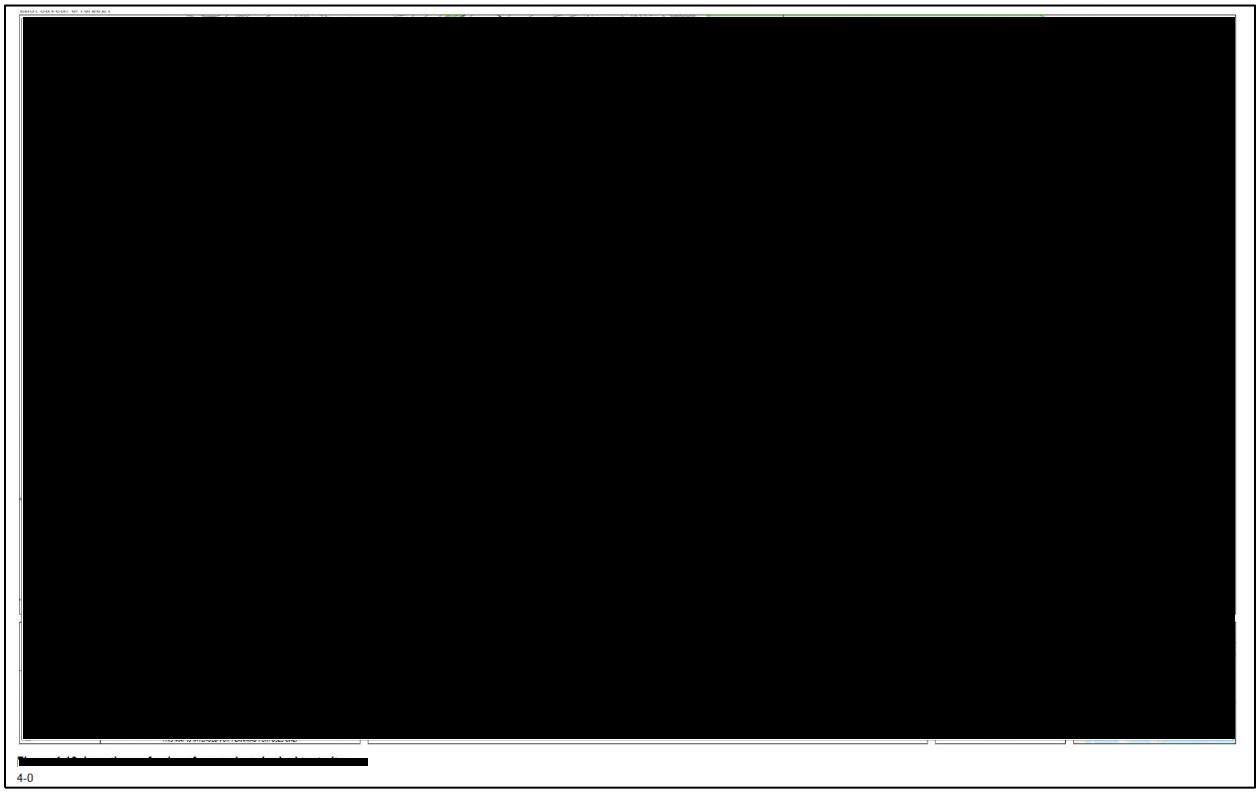
3.1 Historic Properties

The HPTP involves two historic properties, as identified in 3.1-1 and located on Figure 3.1-1.

Table 3.1-1. Historic Resources included in the HPTP

Name	Municipality	State	Site No.	Property Designation	Ownership
[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
[redacted]	[redacted]	[redacted]		[redacted]	[redacted]

Figure 3.1-1. [redacted]



In Section 3.22 and 3.33, each historic property is individually considered, described both physically and historically. Information on each historic property, relevant historic context, and potential NRHP eligibility is summarized from the *Terrestrial Archaeological Resources Assessment and Site Identification Survey* (TARA; PAL, 2021) prepared in support of the Undertaking's COP submittal to BOEM.

3.2 [redacted]

3.2.1 Physical Description and Existing Conditions

[redacted]

Table 3.2-1. Native American Cultural Materials by Stratum, [redacted]

[redacted]	[redacted]	[redacted]						
		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]		[redacted]
[redacted]	[redacted]					[redacted]		[redacted]
[redacted]	[redacted]		[redacted]					[redacted]
[redacted]	[redacted]		[redacted]					[redacted]
[redacted]	[redacted]	[redacted]						[redacted]
[redacted]	[redacted]		[redacted]			[redacted]		[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
	[redacted]		[redacted]					[redacted]
	[redacted]		[redacted]					[redacted]
	[redacted]		[redacted]					[redacted]
[redacted]	[redacted]	[redacted]	[redacted]					[redacted]
[redacted]	[redacted]				[redacted]	[redacted]		[redacted]
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Excavation of TP TB-04 [redacted] Feature 01 was observed to be a dark grayish brown, fine silty medium sand that contrasted with the natural dark yellowish brown B horizon subsoil. The feature was semi-circular in plan in the TP's south wall and extended south beyond the limits of excavation. A moderate density of argillite chipping debris and several bivalve shell fragments were recovered from the feature before excavation was suspended (Table 3.2-1). The Public Archaeology Laboratory, Inc. (PAL), who conducted the archaeological survey, provided a preliminary interpretation that Feature 01 was a possible Native American refuse pit.

Excavation of TP TK-01 on the [redacted] Feature 02 was observed to be a very dark grayish brown, silty coarse sand anomaly beneath apparent B horizon subsoils. Charcoal, lithic chipping debris, and shell fragments were recovered from Feature 02 before excavation was suspended. Charcoal collected from 40 to 50 cmbgs in Feature 02 yielded a radiocarbon date of 670 ± 30 radiocarbon years before present (B.P.), falling within the Late Woodland temporal period (1,000-450 B.P.). PAL provided a preliminary interpretation that Feature 02 was a Native American hearth or cook fire.

[redacted]. Thus, no Phase III Data Recovery investigations are planned around either of these two previously recorded features.

Six twentieth-century artifacts included molded glass shards, window glass, and a 1972 penny were also recovered from A horizon topsoil in test pits excavated within [redacted]

[redacted]

3.2.2 Historic Context

Based on the Small Stemmed projectile point recovered from TP TJ-1, [redacted]. The Small Stemmed archaeological tradition is one of three traditions associated with the Late Archaic, with projectile points typically made from quartz, quartzite, or argillite. Late Archaic period sites in the New England region show use of large wetland systems (Thorbahn, 1982). Shellfish exploitation also intensified during this time period. [redacted].

[redacted] Late Woodland period sites are common in the vicinity of water, including coastal environments, streams and rivers, and freshwater ponds and wetlands. Late Woodland sites are generally categorized by specialized resource exploitation sites (e.g., shell middens, hunting and processing camps, and lithic workshops), small domestic sites, and larger hamlets or villages. Artifacts commonly attributed to the Late Woodland period include Madison and Levana type projectile points and cord-pressed, stick-wrapped, and incised ceramics. [redacted]

Native American settlement and subsistence patterns established during the Late Woodland Period were disrupted beginning in the early sixteenth century by foreign cultural contact, initially with European explorers and later by settlers. Sixteenth- and seventeenth-century Native American settlements were focused within traditional coastal tribal territories that developed before and during the Late Woodland Period. Historically, Rhode Island's south coast was occupied by the Narragansett and Niantic Indian tribes. [redacted]

[redacted] Aerial photography from 1941 shows the partial clearing of the area near the [redacted], and one dirt roadway loop to the east of the Site. [redacted] may have been used to temporarily stockpile bulk materials. Remediation activities at the former landfill/dump between 1997 and 1998 removed several hundred tons of tires, asphalt, concrete, scrap metal and wood debris, and contaminated soils (VHB, 2019).

3.2.3 NRHP Criteria

[redacted]

[redacted] The variety of lithic materials, range of representative artifact types, and their distribution along with the identification of two suspected Native American cultural features indicate [redacted]

3.3 [redacted]

3.3.1 Physical Description and Existing Conditions

[redacted]

Table 3.3-1. Native American Cultural Materials by Stratum, [redacted]

Material	Object	Stratum				Count
		A1	A_p	B1	B2	
[redacted]	[redacted]	[redacted]			[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
	[redacted]	[redacted]				[redacted]
[redacted]	[redacted]	[redacted]		[redacted]		[redacted]
[redacted]	[redacted]			[redacted]		[redacted]
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

A small brock fragment was also recovered from the same test pit as the projectile point (TP TH-02). No evidence of suspected Native American features was encountered during test pit excavation [redacted]

3.3.2 Historic Context

Based on the Wading River Small Stemmed projectile point recovered from TP TH-02, [redacted] The similarity in stone tool forms used during the Late Archaic and Early Woodland periods suggest that some Small Stemmed tradition sites may include Early Woodland components (Juli and McBride 1984). See Section 3.2.2 for a discussion of the historic context of the Late Archaic period [redacted].

The Early Woodland period (from 1,000 to 450 B.P.) is characterized by limited use of upland areas and more intensive occupation of the coastal zone. In the absence of radiocarbon dates to attribute sites to the specified time range, Early Woodland occupations in Rhode Island have been identified by the presence of associated archaeological traditions including Meadowood, Lagoon, and Rossville type projectile points and by grit-tempered, cord-marked Vinette I ceramics.

Due to the close spatial proximity of the two sites, the early sixteenth to late twentieth century historic context of the [redacted] (see Section 3.2.2).

3.3.3 NRHP Criteria

[redacted]. Additional archaeological investigations may contribute new information on Late/Transitional Archaic and Early Woodland Period settlement, Late Archaic exploitation of wetland resources, occupation of an interior esker, similarities and differences between Late Archaic and Early Woodland cultural materials and artifact assemblages, coastal vs. interior subsistence economy preferences during the Archaic Period, and general cultural evolution and change within southern Rhode Island's near interior and coastal zone. In the TARA (PAL, 2021), [redacted]

4.0 MITIGATION MEASURES

Revolution Wind recognizes the significance of the [redacted] and is committed to avoiding or minimizing impacts to these sites to the extent feasible. This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects. The mitigation measures for the [redacted] (detailed below) reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind. BOEM and Revolution Wind have identified steps to implement these measures in consultation with Participating Parties, led by individuals who meet the qualifications specified in the Secretary of the Interior's Qualifications Standards for Archaeology (36 CFR 61) and have demonstrated experience in the interpretation of Precontact Period archaeological sites in the Northeast region.

4.1 [redacted]

4.1.1 Data Recovery Investigations

4.1.1.1 Purpose and Intended Outcome

This HPTP proposes to complete Phase III data recovery investigations within the affected sections of the sites to document and recover critical information regarding the ancient Native American use of the [redacted]. The intended outcome is to provide funding to Secretary of the Interior's Qualified Archaeologists (36 CFR 61) to conduct a data recovery investigation within the affected sections of the historic properties.

4.1.1.2 Scope of Work

The scope of work will consist of the following:

- The Phase III Data Recovery Program specifying the scope of the proposed Phase III investigation (Attachment A);
- Field investigation of approximately 20% of the impact areas of both historic properties, including 1-x-1 and 2-x-2-meter excavation units (EUs) to document the stratigraphic integrity of the site, investigate artifact concentrations, and/or investigate potential features more precisely;
- Feature documentation and excavation; and
- Artifact recovery, processing, and analysis.

4.1.1.3 Methodology

The research design and specific research questions to be addressed through field research and laboratory analyses will be developed in consultation with the RI SHPO and the Participating Parties. Representatives from the consulting Native American Tribes will be invited to monitor the field investigations and participate in the interpretation of collected data. Excavations are anticipated to include up to 20 percent of the impacted areas of the historic properties in order to provide a representative sample of cultural materials and to support detailed analyses.

4.1.1.4 Standards

The archaeological data recovery investigations will comply with the following standards:

- Rhode Island Historical Preservation & Heritage Commission's (RIHPHC) Performance Standards and Guidelines for Archaeology in Rhode Island (the Guidelines, 2021); and
- Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 Federal Register 44716–44742, 1983).

4.1.1.5 Reporting

The results of the Phase III data recovery investigations will be presented in a Phase III illustrated report. The report will include the results of the Phase III field investigations, artifact analyses, appropriate maps, photographs, and illustrations, and conclusion regarding significance. It is anticipated that the Phase III report will include the following sections:

1. Introduction: The report will describe the purpose and goals of the investigation and describe the proposed development/construction within the historic properties.
2. Project Background: The report will include a summary of the TARA (PAL, 2021), as well as a summary of correspondence with involved state and federal agencies and Participating Parties.
3. Research Design/Research Questions: The Phase III report will include the research design and specific research questions to be addressed by data recovery and analysis at each site.
4. Field Investigations: The Phase III report will include a summary of the methods and results of field investigations. This will include:
    - one or more artifact density maps,
    - representative stratigraphic profiles for test units
    - stratigraphic profiles and plan views of all investigated potential features.
5. Analyses: The report will include a complete artifact inventory, as well as a synthesis and interpretation of the artifact assemblages recovered, and features documented during the Phase I investigation described in the TARA and the proposed Phase III investigations.
6. Conclusions: The report will offer additional preservation and management recommendations and the need (if any) for additional archaeological investigations.

An electronic copy of the Phase III report will be submitted to the RI SHPO, BOEM, and THPOs for review and comment. Revolution Wind will provide two bound copies of the final report to the RI SHPO reflecting the consideration of all consulting party comments and recommendations.

4.1.1.6 Curation

The archaeological collections associated with [redacted] will be curated at PAL facility at 26 Main Street, Pawtucket, Rhode Island. Curation of the collections will be in accordance with a RIHPHC-issued archaeological permit authorizing the data recovery excavations. PAL is an approved curatorial facility under specific project permits issued by the RIHPHC and the Massachusetts Historical Commission (MHC) for collections originating in Rhode Island and Massachusetts. PAL currently curates

multiple collections for state and federal agencies in accordance with all applicable state and federal standards. The curation section of the laboratory is inspected regularly by state and federal agencies to ensure the proper maintenance of the cultural materials entrusted to PAL's care.

PAL is an approved institution for curating cultural materials and project-related documentation according to the Code of Federal Regulations 36 CFR 79 (*Curation of Federally-Owned and Administered Archeological Collections*). Laboratory employees are experienced with the curation protocols of many states and federal agencies and the current standards for curation practices as set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Federal Register 44716–44742, 1983). The Laboratory Manager is a Registered Professional Archaeologist (RPA) and follows the Code of Conduct for that organization as well as the principles of archaeological ethics specified by the Society of American Archaeology and the Society for Historical Archaeology.

4.1.2 Archaeological Construction Monitoring Plan

Following the completion of the data recovery field investigations an Archaeological Construction Monitoring Plan (Attachment B) will be implemented during all ground disturbing activities within and adjacent to the archaeological sites' impact areas.

4.1.3 Historic Property Archaeological Protection Plan

A Historic Property Archaeological Protection Plan will be developed following the Phase III data recovery investigations in order to ensure that the areas of [redacted] that remain intact will be protected throughout ongoing Operations and Maintenance of the Project. The draft plan will be circulated to the Participating Parties for review.

4.1.4 Documentation

The following documentation is to be provided for review by Participating Parties:

- [redacted];
- Draft Historic Property Archaeological Protection Plan;
- Final Historic Property Archaeological Protection Plan;
- Draft Archaeological Construction Monitoring Report;
- Final Archaeological Construction Monitoring Report;
- Draft Phase III Archaeological Data Recovery Report; and
- Final Phase III Archaeological Data Recovery Report.
- Draft Historic Property Archaeological Protection Plan
- Final Historic Property Archaeological Protection Plan

4.1.5 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106 of the NHPA. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

5.2.2 Revolution Wind, LLC

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.3 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

and consultation meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.

6.0 REFERENCES

Code of Federal Regulations (CFR). 2021a. 36 CFR 800 – Protection of Historic Properties [incorporating amendments effective December 15, 2021]. Available at https://www.ecfr.gov/current/title-36/chapter-VIII/part-800. Accessed December 21, 2021.

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VHB. 2019. *Phase I Environmental Site Assessment - Revolution Wind Proposed Onshore Cable Route and Interconnection Facility: Whitecape Drive, Circuit Drive and Camp Avenue, North Kingstown, Rhode Island*. Prepared for Ørsted North America, Inc. Providence, Rhode Island.

ATTACHMENT 8 – HISTORIC PROPERTIES TREATMENT PLAN FOR THE REVOLUTION WIND FARM: THE [redacted] TRADITIONAL CULTURAL PROPERTY [redacted] MASSACHUSETTS & ATLANTIC OUTER CONTINENTAL SHELF

REDACTED – Includes Archaeological Site Location Information

Historic Property Treatment Plan

for the

Revolution Wind Farm

The Chappaquiddick Island Traditional Cultural Property
Dukes County, Massachusetts & Atlantic Outer Continental Shelf

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind | Powered by Ørsted & Eversource

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	The Chappaquiddick Island Traditional Cultural Property (TCP)
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
EDR	Environmental Design and Research, D.P.C.
DEIS	Draft Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FR	Federal Register
HPTP	Historic Property Treatment Plan
MHC	Massachusetts Historical Commission
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
RFP	Request for Proposals
ROD	Record of Decision
RWF	Revolution Wind Farm
SOI	Secretary of the Interior

TCP	Traditional Cultural Property
USCG	United States Coast Guard
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for the Chappaquiddick Island Traditional Cultural Property (the historic property), which was determined eligible for listing in the National Register of Historic Places by the Bureau of Ocean Energy Management in 2021, provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects identified in the *Historic Resources Visual Effects Analysis – Revolution Wind Farm*, (HRVEA; EDR, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act of 1966 (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve potential adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic properties included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic properties are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic properties, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Project Location

2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of an ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB). This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2 – Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historic commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021, pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic property and invited the following party:

- The historical Chappaquiddick Tribe of the Wampanoag Nation.

3.0 EXISTING CONDITIONS, HISTORIC SIGNIFICANCE, AND MARITIME SETTING

3.1 Historic Properties

This HPTP involves one historic property, as identified in Table 3.1-1 and depicted on Figure 3.1-1.

Table 3.1-1. Historic Property included in the HPTP

Name	Municipality	State	Site No. (Agency)	Ownership	Historic Property Type
The Chappaquiddick Island TCP	Edgartown	MA	N/A	Multiple	TCP

Figure 3.1-1. Historic Property Location

In Section 3.3 the historic property is described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.2 Maritime Setting

For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this report.

3.3 The Chappaquiddick Island TCP

Chappaquiddick Island, [redacted] is a traditional cultural property encompassing multiple individual places associated with the traditional cultural practices of the historical Chappaquiddick Tribe of the Wampanoag Nation (BOEM, 2020).

[redacted]

[redacted]

[redacted]

3.3.1 Historic Context

The Chappaquiddick Island TCP is one of at least three inter-related Wampanoag maritime traditional cultural properties [redacted] are each distinguishable entities within a broader maritime cultural landscape associated with ancient and enduring traditional beliefs and practices

of Wampanoag peoples. Each of the identified TCPs is associated with specific cultural practices and traditions related to the formation of the constituent lands and waters, the origins of the Wampanoag peoples, and the relationships among the Tribes and the worlds in which they have lived since time immemorial.

Traditional ceremonies honoring Chappaquiddick Wampanoag ancestors and the enduring relationships among the indigenous people of Chappaquiddick Island and the woodland, grassland, estuarine, and marine species upon which they relied are still practiced today (BOEM, 2019). Based on BOEM's previous consultations, some ceremonies and cultural connections with the physical and spiritual worlds of which the Tribe is part include activities tied to astronomical events (sunrise, sunset, and moon phases) observed from land-based vantages over the ocean's waters. Traditional cultural connections with the seas, finfish, shellfish, whales, and seals are embodied in the contributing resources to the TCP district and the ancestors buried there or lost at sea.

3.3.2 NRHP Criteria and the Maritime Visual Setting

BOEM determined the Chappaquiddick Island TCP is potentially eligible for listing in the National Register of Historic Places under Criterion A for its association with and importance in maintaining the continuing cultural identity of the Chappaquiddick Tribe of the Wampanoag Nation.

4.0 MITIGATION MEASURES

Mitigation measures at these historic properties are detailed in this section. These mitigation measures were developed in consultation with the Participating Parties by individuals who met Secretary of the Interior (SOI) Qualifications Standards for Archeology, History, Architectural History and/or Architecture (62 FR 33708) and are appropriate to fully address the nature, scope, size, and magnitude of adverse effects including cumulative effects caused by the Project, and the NRHP-qualifying characteristics of each historic property that would be affected. These mitigation measures also include actions to respond to some reasonably foreseeable hazards unrelated to the Project that pose risks to the long-term preservation of affected historic properties, such as climate change.

4.1 GIS Database of Contributing Resources to the TCP

4.1.1 Purpose and Intended Outcome

Stewardship of the Chappaquiddick Island TCP is of critical importance to the Chappaquiddick Wampanoag Tribe. The historical Tribe's efforts to preserve and sustain both the physical elements of the historic property and the associated traditional practices with the landscape features, within, will be enhanced with a detailed and current GIS database based on documentation studies being conducted by others. This HPTP proposes the development of a non-proprietary spatial database of contributing resources and associated physical features to assist in prioritizing preservation efforts and ensure that accurate information is available to support local, state, and federal consideration of TCP impacts in future permitting processes.

A GIS database incorporating the results of on-going documentation of the TCP will be developed and include information on existing conditions at each contributing resource and/or significant element of the TCP district. The GIS will include simple data collection and update interfaces to enhance the Tribe's capacity to maintain the database and associated records pertaining to the TCP. The GIS will allow for overlays of other publicly available that may assist in identifying sites and places at-risk due to coastal erosion, storm surge, habitat degradation, or other climate change related threats.

4.1.2 Scope of Work

The scope of work will consist of the following:

- Request for Proposals (RFP)[1];
- Proposals by qualified consultants in response to the RFP;
- Preliminary platform, schema, proposed interfaces, and database structures with associated narrative descriptions that accommodate the following mitigation measure (Section 4.2) for review by the Participating Parties;
- Final development and deployment plan for the GIS; and
- Development and delivery of the GIS with associated datasets.

[1] At the Chappaquiddick Wampanoag's discretion, the RFP for measures described in Sections 4.1 and 4.2 may be combined, provided the scoping is appropriate to encompass the separate deliverable.

Final deliverables produced by the consultant will incorporate further comments and any additional information provided by the participating parties.

4.1.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the Participating Parties on the criteria for selection and priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.1.4 Standards

Documentation will be prepared by professionals meeting the qualifications specified in the Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61). The GIS will be developed by professionals with demonstrated experience in the creation and organization of spatial databases of cultural resources and the relevant and specific attributes necessary for recordation and management. The GIS development will be overseen by a qualified Geographic Information Systems Professional.

4.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft deliverables; and
- Final deliverables.

4.1.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.2 Development of Interpretative Materials

4.2.1 Purpose and Intended Outcome

Development of the TCP GIS database (see Section 4.1) will allow for incorporation of other digital media pertaining to the physical and cultural elements of the historic property in a manner that enhances intra-tribal and extra-tribal appreciation. GIS story maps or comparable presentations could include relevant archival data, oral histories, news stories, video footage, and public domain datasets to help the historical

Chappaquiddick Wampanoag Tribe share the history of the TCP and its meaning to members of their community.

The intended outcome of this measure is to support the historical Chappaquiddick Wampanoag Tribe's efforts to integrate existing information from disparate sources in a compelling, flexible interpretative format that suits the needs and priorities of their community. Story maps and comparable presentations would allow the Tribe to focus on educational opportunities within their community, share important information about the TCP with tribal members who have limited physical access to the island, and tell their collective stories in a format that enhances mutual understanding and supports effective decision-making for future preservation efforts.

4.2.2 Scope of Work

The scope of work will consist of the following:

- RFPs[2];
- Proposals by qualified consultants in response to the RFP;
- Community charette(s) to select topics to be addressed in story maps or other interpretive exhibits;
- Draft story maps for review and comment by participating parties; and
- Final story maps.

4.2.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the Participating Parties on the criteria for selection and priorities for the consultant team's qualifications and experience.

Revolution Wind will host a meeting with the Participating Parties to review the draft Story Maps including a walk-through of the user interface, functions and associated media content. Revolution Wind will solicit feedback on the draft work product during the meeting. No more than 30 days following the meeting, Revolution Wind will provide to BOEM and the Participating Parties a summary of the discussions, comments shared, and the steps Revolution Wind will take to incorporate comments in the final work products. Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.2.4 Standards

The GIS media (story maps or other work products) will be developed under the supervision of a qualified Geographic Information Systems Professional. Unless otherwise agreed by the Chappaquiddick Wampanoag Tribe and Revolution Wind, the work products will be accessible by parties without access to

[2] At the Chappaquiddick Wampanoag's discretion, the RFP for measures described in Sections 4.1 and 4.2 may be combined, provided the scoping is appropriate to encompass the separate deliverable.

proprietary software and at no cost to the end-user. At the Tribe's discretion, access to sensitive content may be restricted to limited audiences where disclosure would pose a risk to the contributing resources within the TCP or other historic properties.

4.2.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft deliverables; and
- Final deliverables.

4.2.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.3 Climate Adaptation Planning Study

4.3.1 Purpose and Intended Outcome

Multiple elements of the Chappaquiddick Island TCP are threatened by coastal erosion, habitat degradation, storm impacts, invasive species and other climate change-related risks. Rates of shoreline retreat along [redacted] are among the fastest in the Commonwealth of Massachusetts (Vineyard Gazette, 2013) and future losses to coastal bluffs associated with the TCP can be expected. Breaches to [redacted] may affect the marine habitats within [redacted] that support numerous plant and animal species that form important elements of traditional subsistence patterns. Likewise, rising winter temperatures threaten the viability of cranberry propagation on Martha's Vineyard, as a whole. Archaeological sites associated with past uses of the TCP by the Chappaquiddick Wampanoag Tribe are also threatened by erosion associated with rising seas and the increased frequency and intensity of storms affecting the island. The Climate Adaptation Planning Study would assess future threats to elements of the TCP included in the integrated GIS database (see Section 4.1) and define a series of options to mitigate those threats.

The intended outcome of this measure is a Climate Adaptation Plan that is focused on the specific resources and characteristics of the Chappaquiddick Island TCP and needs of the associated traditional community. The plan and data compiled during the implementation of the other mitigation measures will assist the historical Tribe in determining the most appropriate and feasible actions to help preserve the TCP from foreseeable threats. The plan may also foster collaborative efforts among the municipal, state, and private parties to preserve the unique physical and cultural assets of Chappaquiddick Island.

4.3.2 Scope of Work

The scope of work will consist of the following:

- RFPs[3];
- Proposals by qualified consultants in response to the RFP;
- Community charette(s) to select priority resources and/or risks;
- Draft plan for review and comment by participating parties; and
- Final plan.

4.3.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the Participating Parties on the criteria for selection and priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.3.4 Standards

The Climate Adaptation Planning Study will be conducted by qualified professionals with Global Association of Risk Professionals' Sustainability and Climate Risk certification and/or demonstrated experience in the preparation of climate change risk assessments for municipal, state, or federal governments.

4.3.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft Plan for review and comment by participating parties; and
- Final Plan.

4.3.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

[3] At the Chappaquiddick Wampanoag's discretion, the RFP for measures described in Sections 4.1 and 4.2 may be combined, provided the scoping is appropriate to encompass the separate deliverable.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

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- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

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Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with tribal nations are performed by professionals who have demonstrated professional experience consulting with Native American tribes and descendant communities.

5.2.3 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

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6.0 REFERENCES

Bureau of Ocean Energy Management (BOEM). 2020. Finding of Adverse Effect for the Vineyard Wind 1 Project Construction and Operations Plan, Revised November 13, 2020. Available at: https://www.boem.gov/sites/default/files/documents/oil-gas-energy/Vineyard-Wind-Finding-of-Adverse-Effect.pdf

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ATTACHMENT 9 – HISTORIC PROPERTIES TREATMENT PLAN FOR THE REVOLUTION WIND FARM: THE [redacted] TRADITIONAL CULTURAL PROPERTY [redacted] MASSACHUSETTS & ATLANTIC OUTER CONTINENTAL SHELF - FEDERALLY-RECOGNIZED NATIVE AMERICAN TRIBES

REDACTED– Includes Archaeological Site Location Information

Historic Property Treatment Plan

for the

Revolution Wind Farm

The Vineyard Sound & Moshup's Bridge Traditional Cultural Property Dukes County, Massachusetts & Atlantic Outer Continental Shelf Federally-Recognized Native American Tribes

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	The Vineyard Sound & Moshup's Bridge Traditional Cultural Property (TCP), Dukes County, Massachusetts and Atlantic Outer Continental Shelf
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
EDR	Environmental Design and Research, D.P.C.
FEIS	Final Environmental Impact Statement

FR	Federal Regulation
HPTP	Historic Property Treatment Plan
MHC	Massachusetts Historical Commission
MOA	Memorandum of Agreement
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
RFP	Request for Proposals
ROD	Record of Decision
RWF	Revolution Wind Farm
TCP	Traditional Cultural Property
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This draft applicant-proposed Historic Property Treatment Plan (HPTP) for the Vineyard Sound & Moshup's Bridge Traditional Cultural Property (the historic property), which was determined eligible for listing in the National Register of Historic Places by the Bureau of Ocean Energy Management in 2021, provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve potential adverse effects preliminarily identified by the applicant in the *Historic Resources Visual Effects Analysis – Revolution Wind Farm*, dated May 2023 (HRVEA; EDR, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind, LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve potential adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with federally-recognized Native American Tribes, the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and/or other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

Pursuant to the terms and conditions of the MOA, Revolution Wind will implement these mitigation measures.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.
- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic property included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic property are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic property, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Project Location

2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of an ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB).

This HPTP describes the measures to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect a refinement of the conceptual mitigation framework proposed by Revolution Wind (see Appendix BB in the COP).

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2, Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historic commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.2.2 Preservation Easements and Restrictions

Preservation easements and restrictions protect significant historic, archaeological, or cultural resources. The State of Massachusetts preservation restrictions are outlined in Massachusetts General Law Chapter 184, Sections 31-33. [redacted] Additional information regarding compliance with extant preservation restrictions appears in Section 5.0, Implementation.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021 pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) with Federally recognized Native American Tribes and interested consulting parties to review conceptual mitigation measures for the historic property.

3.0 EXISTING CONDITIONS, HISTORIC SIGNIFICANCE, AND MARITIME SETTING

3.1 Historic Properties

This HPTP involves one historic property, as identified in Table 3.1-1 and located on Figure 3.1-1.

Table 3.1-1. Historic Property included in the HPTP

Name	Municipality	State	Site No. (Agency)	Ownership
The Vineyard Sound & Moshup's Bridge TCP	Multiple	MA	N/A	Multiple

Figure 3.1-1. Historic Property Location

In Section 3.3, the historic property is described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.2 Maritime Setting

For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this report.

[redacted]

The maritime setting of the TCP is integral to its historical and cultural significance. [redacted]

3.3 The Vineyard Sound & Moshup's Bridge TCP

[redacted]

[redacted]

The TCP maintains a high degree of integrity despite alterations through time due to post-glacial sea-level rise, coastal erosion, grazing, bombing, clay mining, and modern development. The landforms, themselves, are associated with central events and figures in Wampanoag creation traditions. The historic property continues to support traditional cultural practices, including the sharing of stories related to the formation of the associated landforms and the importance of reciprocal relationships among the Wampanoag peoples and other beings of land, sea, and air as central elements of Wampanoag identities.

3.3.1 Historic Context

[redacted]

[redacted]

[redacted]

3.3.2 NRHP Criteria and the Maritime Visual Setting

The Vineyard Sound and Moshup's Bridge TCP is eligible for listing in the National Register under the following criteria:

- Criterion A for its association with ancient and historic Native American exploration and settlement of Aquinnah, central events in Moshup's and the Aquinnah tribe's history, and the character of the lands within;
- Criterion B for its association with Moshup;
- Criterion C as a distinguishable and significant component of Aquinnah lifeways, cosmology, economies, traditions, beliefs, and cultural practices; and
- Criterion D for its potential to yield information through archaeology, ethnography, and ethnohistory significant to understanding the Native American settlement, economies, land use and cultural practices prior to and after the inundation of Vineyard Sound.

[redacted]

4.0 MITIGATION MEASURES

Mitigation measures at these historic properties are detailed in this section. This HPTP addresses the mitigation requirements identified by BOEM to resolve adverse effects to the Vineyard Sound & Moshup's Bridge TCP. BOEM and Revolution Wind have identified steps to implement these measures in consultation with Participating Parties, led by individuals who meet the qualifications specified in the Secretary of the Interior's Qualifications Standards for History, Architectural History and/or Architecture (62 FR 33708) and have demonstrated experience in the interpretation of Precontact Period archaeological sites in the Northeast region.

4.1 Support for Improved Tribal Connections to [redacted]

4.1.1 Purpose and Intended Outcome

[redacted] The mitigation measure would help improve tribal connections to the cultural landscapes of the island for those community members who cannot currently visit through the creation of virtual interpretative or physical exhibits.

This measure is intended to support and enhance the traditional cultural connections [redacted] through the development of interpretative exhibits which may include virtual experiences of the island's existing and past conditions and Wampanoag traditions of the island's creation.

4.1.2 Scope of Work

The scope of work will consist of the following:

- Identification of appropriate printed and/or digital media for interpretative exhibits;
- Archival research on the history, development, and historical/cultural significance of [redacted]
- Consultation with Participating Parties;
    - Consultation meetings and discussions including the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe will be bilateral with Revolution Wind unless otherwise requested and agreed upon by the federally-recognized Native American Tribes.
- Design and production of draft interpretive materials;
- Design and production of final printed and/or digital interpretive materials; and

Final deliverables produced by the consultant will incorporate further comments and any additional information provided by the Participating Parties.

4.1.3 Methodology

Revolution Wind will release a Request for Proposals (RFP) for consultant services in consultation with the Participating Parties and will seek input from the consulting Tribes on the criteria for selection and the Tribes' priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.1.4 Standards

Documentation will be prepared by professionals meeting the qualifications specified in the Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61).

4.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft deliverables; and
- Final deliverables.

4.1.6 Funds and Accounting

Funding amounts were determined by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

4.2 Scholarships and Training for Tribal Resource Stewardship

4.2.1 Purpose and Intended Outcome

The Aquinnah and Mashpee tribes have protected and cherished the Vineyard Sound & Moshup's Bridge TCP for generations. Development of the lands and seas within and near the TCP will continue to alter the character-defining elements of the historic property. Climate change is also threatening multiple culturally significant habitats and associated plant and animal communities upon which the Tribes have relied since time immemorial, and which are of great importance in maintaining the distinct cultural identities of the Tribes and Tribe members. Effective analyses, consultation, and decision-making within each Tribal government and to support each Tribe's consultations with external agencies require a broad range of skills and knowledge. The purpose of this measure is to enhance the capacity of each Tribe to preserve the critical physical and cultural attributes of the TCP through training and education of tribal members. Revolution Wind would fund scholarships and fees for professional training or certification programs in the fields of

Astronomy, Archaeology/Anthropology, Marine Sciences, Aquaculture, Marine Fisheries, Marine Construction, Native American Studies, Ethnohistory, History, Biology, and related fields through this measure. At the discretion of each Tribe, recipients of financial support funded through this measure may be required to perform a limited period of service in the tribal government offices related to their field of study or training.

The intended outcome of this measure is to support and strengthen the Tribes' capacity to protect and preserve the TCP and its constituent elements through education and professional development. Traditional stewardship activities, including finfishing, shellfishing, plant harvesting and tending, and respectful treatment of plant and animal communities that form critical elements of the TCP would be enhanced through incorporation of professional and academic training with traditional knowledge.

4.2.2 Scope of Work

The scope of work will consist of the following:

- Development of selection criteria for qualified applicants to receive financial support for educational and training opportunities;
- Development of specific accreditation requirements for educational and training programs to which qualified tribal members may enroll;
- Establishment of the appropriate Tribal Council, Tribal Department of Education, or committees of such governing bodies or departments to select among applicants to the funding program;
- Development of fiscal control measures and annual reporting standards for all disbursements; and
- Development of a Scholarship Program Proposal for review by Revolution Wind prior to initial disbursements, with proposed administrative costs to compensate each Tribal government for administration of the program.

4.2.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the consulting Tribes on the criteria for selection and the Tribes' priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.2.4 Standards

Documentation will be prepared by professionals with demonstrated experience in education and training program management and fiscal reporting.

4.2.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Executed contracts between the implementing party and selected consultants; and
- Draft Scholarship Program Proposal; and
- Final Scholarship Program Proposal.

4.2.6 Funds and Accounting

Funding amounts were determined by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

4.3 Coastal Resilience and Habitat Restoration

4.3.1 Purpose and Intended Outcome

Climate change poses a significant threat to archaeological, architectural, habitat, and landscape elements of the TCP. Rising seas and water temperatures, expansion of invasive species, trends towards shorter, warmer winters, and the increased frequency and intensity of coastal storms are expected to result in future losses of character defining features and contributing resources to the historic property. This measure will provide funding for planning and implementation of targeted efforts to mitigate such foreseeable losses, support economically sustainable traditional shellfishing/finfishing and plant collection practices, and documentation and/or recover of threatened elements of cultural sites associated with the TCP.

The intended outcome of this measure is to identify, and where appropriate, implement projects to preserve, recover, and enhance culturally sensitive species habitat, cultural sites, and to offset the foreseeable impacts of climate change. The structure of this measure is intended to provide for appropriate flexibility for each Tribe to respond to changing conditions over the period of funding and accounts for the unpredictability of certain future environmental conditions. The proposed funding would support phased planning and implementation of related activities. Separate funding would be provided to the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe to support each tribe's priorities and needs.

4.3.2 Scope of Work

The scope of work will consist of the following:

- Development of selection criteria for qualified planning and implementation activities;
- Development of specific professional qualifications for support of funded activities;
- Designation of the appropriate Tribal government body to select project proposals for funding; and
- Development of fiscal control measures, including conflict of interest provisions, and annual reporting on all funded activities.

4.3.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the consulting Tribes on the criteria for selection and the Tribes' priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.3.4 Standards

Documentation will be prepared by professionals with demonstrated experience in archaeology, habitat restoration, coastal resilience planning program management and fiscal reporting, as appropriate to the specific funded activities.

All archaeological surveys or other subsurface terrestrial investigations on any land owned or controlled by the Commonwealth of Massachusetts, its agencies or political subdivisions or on any historical or archeological landmarks or on any lands restricted by Massachusetts General Law (MGL) c. 184, § 31 will be conducted in accordance MHC regulations (950 CMR 70). This HPTP does not require MHC permitting for activities that would not otherwise require such permitting.

4.3.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft deliverables; and
  Final deliverables.

4.3.6 Funds and Accounting

Funding amounts were determined by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

4.4 Archaeological and Cultural Sites Data Compilation

4.4.1 Purpose and Intended Outcome

The Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe have each identified a need for updated inventories of archaeological and cultural resource data pertaining to the TCP and the preparation of updated historic contexts for the interpretation of such resources. The measure would provide for a systematic update of existing Massachusetts Historical Commission (MHC)-maintained resource inventories for sites associated with the affected TCP. A historic context for the TCP, drawing upon

a NRHP-nomination prepared by others, would be developed to integrate newly compiled information and enhance each Tribe's stewardship efforts.

The intended outcome of this measure is an updated open-source GIS inventory of archaeological/cultural sites that contribute to the significance of the Vineyard Sound & Moshup's Bridge TCP and a companion historic context that assists each Tribe in prioritizing preservation and stewardship efforts. Where feasible, the inventory will include updated information on the existing conditions of contributing resources.

4.4.2 Scope of Work

The scope of work will consist of the following:

- Collection and review of existing MHC and THPO documentation of contributing resources to the Vineyard Sound & Moshup's Bridge TCP;
- Coordination with the parties preparing the NRHP nomination for the TCP to verify resource inventory;
- Field visits and photo-documentation, as feasible, to document existing conditions at contributing archaeological and cultural resources within the TCP;
    - Field visits and documentation will be coordinated with the parties preparing the NRHP nomination to avoid duplicative efforts.
- Development of one or more historic contexts for interpretation of contributing resources in alignment with the draft NRHP nomination;
- Preparation and submittal of revised MHC archaeological site forms or comparable documentation for non-archaeological resources to MHC;
- Preparation of GIS data in an open-source format suitable for incorporation in each Tribe's existing GIS infrastructure;
- Submittal of draft historic context(s) and inventory forms to Participating Parties for review and comment; and
- Submittal of final work historic context(s) and MHC inventory forms to participating parties.
    - All submittals to MHC will follow agency guidelines regarding document formatting and print size.

4.4.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the consulting Tribes on the criteria for selection and the Tribes' priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.4.4 Standards

The updated inventory will be prepared by professionals meeting the Secretary of the Interior's professional qualification standards in archeology and/or history (36 CFR 60) and in direct consultation with the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe THPOs.

4.4.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft and Final Historic Context(s) and MHC Inventory Forms; and
- Open source GIS database will be for sole use by the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe or sharing with other Participating Parties at each Tribe's discretion.

4.4.6 Funds and Accounting

Funding amounts were determined by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

4.5 Maritime Cultural Landscapes & Interconnected Contexts

4.5.1 Purpose and Intended Outcome

The Vineyard Sound & Moshup's Bridge TCP is a distinguishable element of a broader maritime cultural landscape significant to Wampanoag peoples and other Native American Tribes in the northeastern United States (BOEM, 2021). The consulting Native American Tribes have expressed an interest in greater recognition of the maritime landscapes associated with their individual tribe's and shared traditional beliefs and practices. This measure will draw upon on-going ethnographic studies and documentation of the Vineyard Sound & Moshup's Bridge and Chappaquiddick Island TCPs, interviews with traditional knowledge holders among the consulting Tribes, and supplemental archival research to document the interconnected components of a broader maritime cultural landscape. The measure will afford opportunities for the associated Tribes to share, as appropriate and at their sole discretion, their traditional knowledge and stories relating to the formation of the lands and seas, significant events in their community's history associated with the maritime cultural landscape, and how their maritime traditions continue to support and sustain their distinctive cultural identities. The intended outcome is a publicly-available and inclusive synthesis of information and knowledge about the maritime cultural landscapes along the shores, coastal islands, and waters of southern New England and Long Island. In accordance with requests from several of the consulting Tribes, documentation and presentation of the maritime cultural landscape will incorporate traditional Wampanoag and other Tribes' names for places, people, and events associated the cultural landscape.

4.5.2 Scope of Work

The scope of work will consist of the following:

- Collection and review of available documentation regarding Native American traditions associated with the coastal and submerged lands and waters of the region;
- Consultations[1] with the consulting Tribes to refine the geographic extent of a potential maritime cultural landscape;
- Consultations with the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe to identify appropriate knowledge-holders with an interest in sharing traditions and beliefs associated with the maritime cultural landscape;
- Consultations with appropriate knowledge-holder to identify appropriate names and terms for significant elements of the cultural landscape;
- Preparation of draft mapping depicting the boundaries and sub-divisions or significant elements of the landscape;
- Interviews with traditional knowledge-holders to collect information regarding traditions and variations on traditions associated with the cultural landscape;
- Creation of GIS data layers depicting the boundaries and names of significant maritime cultural landscape elements;
    - To the extent feasible and practicable, GIS data will be formatted to be compatible with open-source platforms used by the Tribes or employed to share data generated from other offshore wind projects in the region;
- Submittal of a preliminary draft report and mapping synthesizing the information gathered;
- Review of all comments and suggestions provided by the consulting Tribes on the preliminary draft report;
- Submittal of a second draft report to Participating Parties for review and comment; and
- Submittal of final report to Participating Parties.

4.5.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the consulting Tribes on the criteria for selection and the Tribes' priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.5.4 Standards

The report will be prepared by professionals meeting the Secretary of the Interior's professional qualification standards in cultural anthropology, archeology, and/or history (36 CFR 60) and in direct consultation with

[1] Consultations under this Scope of Work will be conducted separately for each federally-recognized Tribe unless requested and agreed upon by all such Tribes.

the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe's Tribal Historic Preservation Offices or other designated tribal representative(s).

4.5.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft and Final reports; and
- Open-source GIS database will be for sole use by the Wampanoag Tribe of Gay Head (Aquinnah) and the Mashpee Wampanoag Tribe or sharing with other Participating Parties at each Tribe's discretion.
- If mutually agreed by the Wampanoag Tribe of Gay Head (Aquinnah) and the Mashpee Wampanoag Tribe, a publicly-available Open-source GIS will be created for access by other Participating Parties and members of the surrounding communities.

4.5.6 Funds and Accounting

Funding amounts were determined by BOEM in consultation with the consulting parties and are identified in an Attachment to the MOA.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.
- BOEM may, at its discretion, assist the implementing party in inter-agency coordination with USFWS and the Navy.

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.2 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

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6.0 REFERENCES

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ATTACHMENT 10 – HISTORIC PROPERTIES TREATMENT PLAN FOR THE REVOLUTION WIND FARM: THE [redacted] TRADITIONAL CULTURAL PROPERTY [redacted] MASSACHUSETTS & ATLANTIC OUTER CONTINENTAL SHELF – NON-FEDERALLY-RECOGNIZED NATIVE AMERICAN TRIBES

REDACTED – Includes Archaeological Site Location Information

Historic Property Treatment Plan

for the

Revolution Wind Farm

The Vineyard Sound & Moshup's Bridge Traditional Cultural Property Dukes County, Massachusetts & Atlantic Outer Continental Shelf Consulting Parties

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

Environmental Design & Research, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	The Vineyard Sound & Moshup's Bridge Traditional Cultural Property (TCP), Dukes County, Massachusetts and Atlantic Outer Continental Shelf
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
EDR	Environmental Design and Research, D.P.C.
FEIS	Final Environmental Impact Statement
FR	Federal Regulation
HPTP	Historic Property Treatment Plan
MHC	Massachusetts Historical Commission
MOA	Memorandum of Agreement
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
RFP	Request for Proposals
ROD	Record of Decision
RWF	Revolution Wind Farm
TCP	Traditional Cultural Property
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for the Vineyard Sound & Moshup's Bridge Traditional Cultural Property (the historic property), which was determined eligible for listing in the National Register of Historic Places by the Bureau of Ocean Energy Management in 2021, provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects caused by the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind, LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP documents has undergone revision and refinement in consultation with federally-recognized Native American Tribes, the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and/or other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

Pursuant to the terms and conditions of the MOA, Revolution Wind will implement these mitigation measures.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic property included in this HPTP. Set within its historic context,

the applicable NRHP criteria for the historic property are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic property, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Project Location

2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of an ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB).

This HPTP describes the measures to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect a refinement of the conceptual mitigation framework proposed by Revolution Wind (see Appendix BB in the COP).

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2, Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historic commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.2.2 Preservation Easements and Restrictions

Preservation easements and restrictions protect significant historic, archaeological, or cultural resources. The State of Massachusetts preservation restrictions are outlined in Massachusetts General Law Chapter 184, Sections 31-33. [redacted] dditional information regarding compliance with extant preservation restrictions appears in Section 5.0, Implementation.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021, and Revolution

Wind anticipates that BOEM will hold additional meetings pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) with interested consulting parties to review conceptual mitigation measures for the historic property.

3.0 EXISTING CONDITIONS, HISTORIC SIGNIFICANCE, AND MARITIME SETTING

3.1 Historic Properties

This HPTP involves one historic property, as identified in Table 3.1-1 and located on Figure 3.1-1.

Table 3.1-1. Historic Property included in the HPTP

Name	Municipality	State	Site No. (Agency)	Ownership
The Vineyard Sound & Moshup's Bridge TCP	Multiple	MA	N/A	Multiple

Figure 3.1-1. Historic Property Location

In Section 3.3, the historic property is described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.2 Maritime Setting

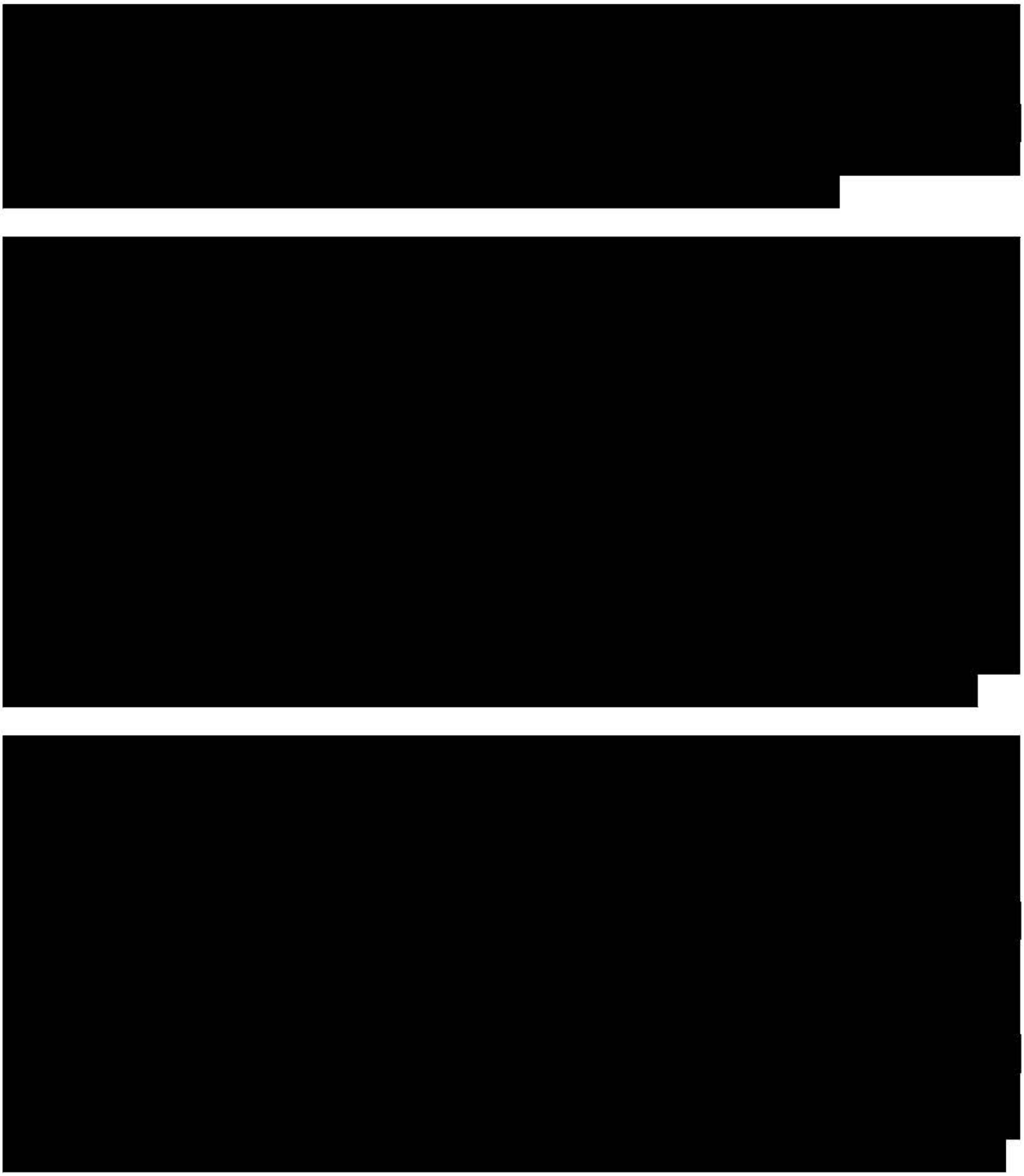
For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this report.

[redacted]

The maritime setting of the TCP is integral to its historical and cultural significance. [redacted]

3.3 The Vineyard Sound & Moshup's Bridge TCP

[redacted]



The TCP maintains a high degree of integrity despite alterations through time due to post-glacial sea-level rise, coastal erosion, grazing, bombing, clay mining, and modern development. The landforms, themselves, are associated with central events and figures in Wampanoag creation traditions. The historic property continues to support traditional cultural practices, including the sharing of stories related to the formation of the associated landforms and the importance of reciprocal relationships among the Wampanoag peoples and other beings of land, sea, and air as central elements of Wampanoag identities.

3.3.1 Historic Context

[redacted]

[redacted]

[redacted]

3.3.2 NRHP Criteria and the Maritime Visual Setting

The Vineyard Sound and Moshup's Bridge TCP is eligible for listing in the National Register under the following criteria:

- Criterion A for its association with ancient and historic Native American exploration and settlement of Aquinnah, central events in Moshup's and the Aquinnah tribe's history, and the character of the lands within;
- Criterion B for its association with Moshup;
- Criterion C as a distinguishable and significant component of Aquinnah lifeways, cosmology, economies, traditions, beliefs, and cultural practices; and
- Criterion D for its potential to yield information through archaeology, ethnography, and ethnohistory significant to understanding the Native American settlement, economies, land use and cultural practices prior to and after the inundation of Vineyard Sound.

[redacted]

[redacted]

4.0 MITIGATION MEASURES

Mitigation measures at these historic properties are detailed in this section. This HPTP addresses the mitigation requirements identified by BOEM to resolve adverse effects to the Vineyard Sound & Moshup's Bridge TCP. BOEM and Revolution Wind have identified steps to implement these measures in consultation with Participating Parties, led by individuals who meet the qualifications specified in the Secretary of the Interior's Qualifications Standards for History, Architectural History and/or Architecture (62 FR 33708) and have demonstrated experience in the interpretation of Precontact Period archaeological sites in the Northeast region.

4.1 Public Interpretation of Interconnected Maritime Cultural Landscapes

4.1.1 Purpose and Intended Outcome

The Vineyard Sound & Moshup's Bridge TCP is a distinguishable element of a broader maritime cultural landscape significant to Wampanoag peoples and other Native American Tribes in the northeastern United States (BOEM, 2021). The consulting Native American Tribes have expressed an interest in greater recognition of the maritime landscapes associated with their individual tribe's and shared traditional beliefs and practices. This measure will draw upon on-going ethnographic studies and documentation of the Vineyard Sound & Moshup's Bridge and Chappaquiddick Island TCPs, interviews with traditional knowledge holders, and supplemental archival research to document the interconnected components of a broader maritime cultural landscape. The measure will afford opportunities for consulting parties to share, as appropriate and at their sole discretion, their traditional knowledge and stories relating to the formation of the lands and seas, significant events in their community's history associated with the maritime cultural landscape, and how their maritime traditions continue to support and sustain their distinctive cultural identities. The intended outcome is a publicly-available and inclusive synthesis of information and knowledge about the maritime cultural landscapes along the shores, coastal islands, and waters of southern New England and Long Island. In accordance with requests from several of the consulting parties, documentation and presentation of the maritime cultural landscape will incorporate traditional Wampanoag and other Tribes' names for places, people, and events associated the cultural landscape.

4.1.2 Scope of Work

The scope of work will consist of the following:

- Collection and review of available documentation regarding Native American traditions associated with the coastal and submerged lands and waters of the region;
- Consultations[1] with the consulting parties to refine the geographic extent of a potential maritime cultural landscape;
- Consultations with the consulting parties to identify appropriate knowledge-holders with an interest in sharing traditions and beliefs associated with the maritime cultural landscape;

[1] Consultations under this Scope of Work will be conducted separately for each consulting party unless requested and agreed upon by all consulting parties.

- Consultations with appropriate knowledge-holder to identify appropriate names and terms for significant elements of the cultural landscape;
- Preparation of draft mapping depicting the boundaries and sub-divisions or significant elements of the landscape;
- Interviews with traditional knowledge-holders to collect information regarding traditions and variations on traditions associated with the cultural landscape;
- Creation of GIS data layers depicting the boundaries and names of significant maritime cultural landscape elements;
    - To the extent feasible and practicable, GIS data will be formatted to be compatible with open-source platforms used by the consulting parties or employed to share data generated from other offshore wind projects in the region;
- Submittal of a preliminary draft report and mapping synthesizing the information gathered;
- Review of all comments and suggestions provided by the consulting parties on the preliminary draft report;
- Submittal of a second draft report to Participating Parties for review and comment; and
- Submittal of final report to Participating Parties.

4.1.3 Methodology

Revolution Wind will release a RFP for consultant services in consultation with the Participating Parties and will seek input from the consulting parties on the criteria for selection and the parties' priorities for the consultant team's qualifications and experience.

Final deliverables produced by Revolution Wind or their consultant team will incorporate further comments and any additional information provided by the Participating Parties.

4.1.4 Standards

The report will be prepared by professionals meeting the Secretary of the Interior's professional qualification standards in cultural anthropology, archeology, and/or history (36 CFR 60) and in direct consultation with each of the consulting Tribe's Tribal Historic Preservation Office or other designated tribal representative(s).

4.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Consultant bids in response to RFPs;
- Draft and Final reports; and
- Open-source GIS database will be for sole use by the Wampanoag Tribe of Gay Head (Aquinnah) and the Mashpee Wampanoag Tribe or sharing with other Participating Parties at each Tribe's discretion.

- If mutually agreed by the Wampanoag Tribe of Gay Head (Aquinnah) and the Mashpee Wampanoag Tribe, a publicly-available Open-source GIS will be created for access by other Participating Parties and members of the surrounding communities.

4.1.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.
- BOEM may, at its discretion, assist the implementing party in inter-agency coordination with USFWS and the Navy.

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes, historical Tribes, and descendant communities.

5.2.2 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

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ATTACHMENT 11 – HISTORIC PROPERTY TREATMENT PLAN FOR THE REVOLUTION WIND FARM: DOCUMENTATION OF TWENTY-SIX HISTORIC PROPERTIES IN RHODE ISLAND

Historic Property Treatment Plan

for the

Revolution Wind Farm

Documentation of Twenty-Six Historic Properties in Rhode Island

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

Environmental Design & Research, D.P.C.
217 Montgomery Street, Suite 1100
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www.edrdpc.com

June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	Abbott Phillips House, Little Compton Warren Point Historic District, Little Compton Tunipus Goosewing Farm, Little Compton Fort Varnum/Camp Varnum, Narragansett Narragansett Pier MRA, Narragansett Life Saving Station at Narragansett Pier, Narragansett The Towers Historic District, Narragansett The Towers/Tower Entrance of Narragansett Casino, Narragansett Dunmere, Narragansett Ocean Road Historic District, Narragansett Champlain Farm Historic District, New Shoreham Mitchell Farm Historic District, New Shoreham Beacon Hill Historic District, New Shoreham Lewis-Dickens Farm Historic District, New Shoreham Lakeside Drive and Mitchell Lane Historic District, New Shoreham Indian Head Neck Road Historic District, New Shoreham Beach Avenue Historic District, New Shoreham Old Town and Center Roads Historic District, New Shoreham

Corn Neck Road Historic District, New Shoreham
Pilot Hill Road and Seaweed Lane Historic District, New Shoreham
New Shoreham Historic District, New Shoreham
Ochre Point-Cliffs Historic District, Newport
Ocean Drive Historic District, Newport
Bellevue Avenue Historic District, Newport
Brownings Beach Historic District, South Kingstown
Puncatest Neck Historic District, Tiverton

Submitted By: Revolution Wind, LLC

Date: June 2023

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WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) was developed in consultation with the Rhode Island Historical Preservation & Heritage Commission (RIHPHC). The HPTP provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects in the *Historic Resources Visual Effects Analysis – Revolution Wind Farm* (HRVEA; EDR, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking) for twenty-six aboveground historic properties located in Rhode Island (hereinafter, the Historic Properties).

Table 1-1 Historic Properties included in the HPTP

Historic Property Name	Municipality	Property Designation
Abbott Phillips House	Little Compton	RIHPHC Historic Resource
Warren Point Historic District	Little Compton	National Register of Historic Places (NRHP)-Eligible Resource (RIHPHC-Determined)
Tunipus Goosewing Farm	Little Compton	NRHP-Eligible Resource (RIHPHC-Determined)
Fort Varnum/Camp Varnum	Narragansett	NRHP-Eligible Resource (RIHPHC-Determined)
Narragansett Pier MRA	Narragansett	NRHP-Listed Resource
Life Saving Station at Narragansett Pier	Narragansett	NRHP-Listed Resource
The Towers Historic District	Narragansett	NRHP-Listed Resource
The Towers/Tower Entrance of Narragansett Casino	Narragansett	NRHP-Listed Resource
Dunmere	Narragansett	NRHP-Listed Resource
Ocean Road Historic District	Narragansett	NRHP-Listed Resource
Champlain Farm Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Mitchell Farm Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Beacon Hill Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Lewis-Dickens Farm Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Lakeside Drive and Mitchell Lane Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Indian Head Neck Road Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Beach Avenue Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Old Town and Center Roads Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Corn Neck Road Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
Pilot Hill Road and Seaweed Lane Historic District	New Shoreham	NRHP-Eligible Resource (RIHPHC-Determined)
New Shoreham Historic District	New Shoreham	Local Historic District
Ochre Point-Cliffs Historic District	Newport	NRHP-Listed

Historic Property Name	Municipality	Property Designation
Ocean Drive Historic District	Newport	National Historic Landmark (NHL)
Bellevue Avenue Historic District	Newport	NHL
Brownings Beach Historic District	South Kingstown	NRHP-Listed Resource
Puncatest Neck H.D.	Tiverton	RIHPHC Historic Resource

Revolution Wind LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act of 1966 (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve potential adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic properties included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic properties are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic properties, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations. The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of an ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB). This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2, Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historic commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.2.2 Preservation Easements and Restrictions

Preservation easements and restrictions protect significant historic, archaeological, or cultural resources. The MOA identifies certain preservation restrictions and easements applicable to specific properties in Stipulation III.C.1. The Rhode Island General Law Title 42, Section 42-45-9.1 established a historic preservation easement fund. The RIHPHC holds Historic Preservation Easements on the following historic properties:

- The Towers, Narragansett
- Spring House Hotel, New Shoreham
- Redwood Library, Newport
- Griswold House (Newport Art Museum), Newport
- Cushing Gallery, Newport
- The Kedge, Newport
- Harbor Court, Newport
- Touro Synagogue National Historic Site, Newport
- Bienvenue, Newport
- Ochre Court, Newport
- The Breakers, Newport
- Seaward, Newport
- Newport Casino, Newport
- Kingscote, Newport
- Chateau-sur-Mer, Newport
- Chinese Tea House at Marble House, Newport
- Faxon Lodge, Newport
- Edward King House, Newport

Any mitigation work associated with the Historic Properties will comply with the conditions of all extant historic preservation easements.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021, pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic properties and invited the following parties:

- The Town of Little Compton
- The Town of Narragansett
- The Narragansett Historic District Commission

- The Narragansett Historical Society
- The Town of New Shoreham
- The Block Island Historical Society
- The City of Newport
- The Newport Restoration Foundation
- The Newport Historic District Commission
- The Preservation Society of Newport County
- The Town of South Kingstown
- The Town of Tiverton
- The U.S. Coast Guard
- The Rhode Island Historical Preservation & Heritage Commission.

3.0 HISTORIC PROPERTIES

This HPTP involves twenty-six historic properties, as identified above in Table 1.1-1. In the below section, each historic property is individually considered, described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.1 Maritime Setting

For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this report.

The historic properties identified in this HPTP are included within the following property types as defined in the HRVEA: "Historic Buildings and Structures," "Historic Cemeteries and Burial Grounds," "Agricultural Properties," "Recreational Properties," "Maritime Safety and Defense Facilities," "Lighthouses and Navigational Aids," and "Estates and Estate Complexes." Each property type is defined below as well as the characteristics typical of their maritime setting.

"Historic Buildings and Structures" includes buildings and associated properties historically used as residences (in some instances their current use may be commercial, municipal, institutional, or otherwise non-residential) and is the largest grouping of above-ground historic properties within the PAPE. Historic Buildings and Structures within the PAPE consist mostly of vernacular residences, or groupings of residences, although this above-ground historic property type also includes historic parks and stone markers. The overall character of these individual above-ground historic properties and districts is residential or intended for public enjoyment, as opposed to the grand mansions and summer "cottages" built by wealthy industrialist families that typified the "Estates and Estate Complexes" property type (see below). These above-ground historic properties are typically listed due to each resource's unique significance or the combined significance of the resources forming an historic district, and usually qualify under National Register Criteria A and C. These factors are shared among the resource to a degree which justifies their grouping as an above-ground historic property type.

Historic buildings and structures not fitting within the previously described types occur throughout the study area and in a variety of local contexts. Location and orientation of such properties is critical to understanding the nature of any associated maritime settings. Many historic structures were oriented to local roadways, with the front and rear elevations parallel to the nearby road's alignment. Local roadways along the region's shorelines often parallel the water's edge and Historic Buildings frequently shift in orientation along such coastal roads. This variation in orientation may strongly influence the associated views of marine waters that may form important elements of a property's historic setting.

"Historic Cemeteries and Burial Grounds" consists of cemeteries identified by federal, state, or local governmental agencies as having historic significance. These above-ground historic properties may be

municipally owned cemeteries on public land, small family plots on private land, or abandoned burial grounds. Historic cemeteries are lasting memorials to the past, provide a guide to the changing values and composition of communities in the course of their historic development.

Historic cemeteries and burial grounds vary throughout the study area. Small, private, non-denominational and family cemeteries were relatively common in New England, and many have survived to present-day. Many examples of small cemeteries were associated with specific farms or families and were frequently placed within the available agricultural lands surrounding a farmstead or near multiple associated family farms. Where such burial grounds are located near the water they may be associated with ocean or other maritime viewsheds, however, ocean vistas are less likely to have been a significant consideration in the siting of such cemeteries than their larger, more formal counterparts in the region. Where cemeteries are located within districts or other historic settlements strongly associated with maritime settings, such burial grounds may be sited to maintain a visual connection to the waters in order to maintain a sense of continuity linking the departeds' final resting places with the environment in which they lived. Cemeteries in urban locations expressing such patterns may include formal design elements associated with the "rural cemetery movement" of the 19th century, which sought to create naturalistic, park-like settings to express "an appreciation of nature and a sense of the continuity of life" (Potter and Boland, 1992). Maritime views from hillside cemeteries that were intentionally incorporated or framed by landscape designs may be more sensitive to discordant modern elements than those associated with less formal burial grounds that may not have been specifically located to provide ocean views.

"Agricultural Properties" consist of historic farm buildings and landscapes which have retained a high degree of integrity and are generally no longer used for their original purpose. These above-ground historic properties feature barns, farmhouses, and large, open tracts of pastureland. Generally, these above-ground historic properties do not derive their significance in any direct way from the ocean or maritime activities.

Historic agricultural properties, including farms, farmhouses, barns and related buildings and structures are relatively common in the study area. Many of these properties were built between 1700 and 1850, after which agricultural economies in New England and New York declined sharply. The historic settings for such properties typically include open, agrarian landscapes which once may have afforded open views of the seas when sited along the shoreline or at higher elevations within the coastal interior. Few of the once expansive agrarian landscapes associated with the historic use of the region's farms survive. Some have been altered by later residential and commercial development and many have been transformed by reforestation. Despite these changes, historic agricultural properties remain an important part of the region's heritage and tangible expression of several centuries of intensive farming that transformed the landscapes throughout southern New England and eastern Long Island.

"Recreational Properties" is defined by the role these properties served in their original functions as places for the resort tourism economy of the late-nineteenth century to flourish. These above-ground historic properties feature beaches, casinos, restaurants, and other buildings and structures built to entertain seasonal vacationers. They are typically located near the shoreline or immediately adjacent to the sea, and in some cases, are the beaches themselves. The enjoyment of, and interaction with, the sea are integral

features of the significance of these above-ground historic properties. In many cases, the beachfront, shoreline, and adjacent ocean waters are prominent features of the historic setting due to their close association with historic recreational activities.

The same macroeconomic trends that saw the decline of the quintessential New England farm in the mid-19th century are associated with a population shift to cities and rise in affluence for some segments of society. Summer resorts, supported by steamships, rail transportation, and eventually, automobiles were developed in numerous locations in the study area in the late 19th century. These resorts varied between properties intended to serve the rising group of "upper middle income" families living in the region's cities to estate-like developments serving a more affluent set. Seaside resorts, like many other shoreline recreational, commercial, and residential properties, were often sited to take advantage of aesthetically pleasing ocean or maritime views. Depending on location and the conformation of the local shoreline, such properties may be associated with specific bay or cove viewsheds that include limited areas of the open ocean waters. Recreational activities at resorts frequently included swimming and designated beaches where residents and visitors may have spent considerable time during the summer months. Where these features are still present and express a tangible association with the historic resort property, views from beaches may be as important as views from more formal elements of the designed landscape. Likewise, historic hotels and inns became more common elements of the region's shoreline communities in the late 19th century. Such properties were often sited near harbors, ferry landings, rail stations, and public or private beaches and may be associated with similar historic maritime settings. Views to ocean waters or the more intimate bays and coves of the region may have been an integral part of the visitor's motivation for staying in such establishments. Such considerations can be expressed through the inclusion of building and landscape features clearly intended to afford views of ocean. Older taverns and inns in the study area may be found along the working harbors and ports and were intended to serve the fishing, whaling, and related participants in maritime commerce. The design and location of these properties may not show the same influence of aesthetic considerations but will likely also retain a strong association with the waterfront and maritime environment.

"Maritime Safety and Defense Facilities" consists entirely of facilities erected by bureaus of the U.S. Department of Defense or their predecessors and share historic associations with coastal defense. These structures vary in their design and construction materials but are unified by their historic functions of rescuing and protecting maritime transportation in the area, or for coastal defense.

Historic military and maritime safety properties along the shoreline will likely be associated with maritime settings. Aesthetic considerations in the siting of such facilities may or may not be expressed in the design of buildings, structures, and landscapes depending on the age and specific functions of the property. Proximity to navigation channels, defensibility, and the presence of existing shipbuilding or repair infrastructure in a broader maritime context may have been significant considerations in the siting of naval facilities. Such factors may not demonstrate a significant association with open ocean viewsheds. The study area includes several significant examples of World War II-era defense structures, including fire control or observation towers designed to monitor specific parts of the maritime environment. Early lifesaving stations were likewise intended to provide for observation of marine waters in the vicinity of known hazards or where

storms posed specific risks to sea-going or coastal vessels. Lifesaving stations were also frequently located where rescue boats or other vessels might be safely launched under treacherous conditions. These locations may have included inlets, harbors or coves adjacent to open waters where rescue and recovery efforts would likely be made.

"Lighthouses and Navigational Aids" are defined by the historic associations with water-related transportation and defense, prominent views of the sea and dominance of the surrounding landscape, and common architectural forms. These structures present themselves as prominent and iconic features on the coastal landscape, possess elevated views of the ocean horizon, and are sited specifically for those elevated views.

Lighthouses and other historic navigation aids in the study area include properties that were intended to serve mariners plying large areas of open water and other properties that served specific navigation routes through the complex and treacherous waters of the region's bays. All of these properties have an obvious association with maritime settings, but the scale of those settings will vary due to the conformation of the local landscape and seas and the design and purpose of each navigation aid.

"Estates and Estate Complexes" consists of high-style residences, or groupings of residences, typically designed by prominent architects of the nineteenth and early twentieth centuries, such as Richard Morris Hunt and McKim, Mead and White. This property type consists mainly of the mansions and summer "cottages" built by wealthy industrialist families, drawn to the vicinity of Newport, Rhode Island as it became a prominent vacation and recreation area for the emerging American elite, and to Montauk Point as a naturalistic and remote enclave.

Estates built by or for wealthy families have been part of the region's landscapes for centuries and many such properties are located along the shorelines. High style, architect-designed mansions and associated landscapes are characteristic of several areas within the study area and many such properties were sited to take advantage of ocean views. The importance of maritime settings to these properties may be apparent in the design of building features such as veranda, porches, and large windows facing the water or through landscape elements and overall designs that were intended to frame specific views towards the seas. As with many other historic property types, the conformation of local shorelines and the specific orientation of each property may be important in assessing the association with specific aspects or elements of each associated viewshed.

3.2 Little Compton

3.2.1 The Abbott Phillips House

3.2.1.1 Physical Description and Existing Conditions

The Abbott Phillips House was built circa 1926-1927 by regional architect Albert Harkness (RIHPHC, 1990). It is sited at 97 Round Pond Road on a 1.8-acre lot, just north of Mill Point, at the Atlantic Ocean. The residence is one-and-one-half stories tall, and approximately 3200 square feet. Its massing is Z-shaped with a central main block (shingled, with mansard roof and hipped dormers), two gabled wings to either side,

and a round stone entrance tower where the southern sections meet. The immediate landscape around the house has been cleared but the parcel retains woodlots as well.

3.2.1.2 Historic Context

Henry Tillinghast Sisson, son of industrialist David Sisson, served with distinction during the Civil War, and after his death was honored by construction of a statue to his memory in Union Cemetery, in the Town of Little Compton. He worked as a mill superintendent for A. & W. Sprague until 1873, then was elected to three terms as Rhode Island Lieutenant Governor. Returning to Little Compton in the late 1870s, Henry Sisson planned a seaside summer resort just north of Mill Point, featuring curving avenues and house lots. The project was never realized and only Round Pond Road itself remains as a remnant of his plans (RIHPHC, 1990).

Architect Albert Harkness of Providence designed the house at 97 Round Pond Road for Abbott Phillips, also of Providence, and a lawyer at the firm of Hinckley, Allen, Phillips & Wheeler. Phillips lived there with his wife and their four children (Little Compton Historical Society, 2020). It remains in use today as a private residence.

3.2.1.3 NRHP Criteria and the Maritime Visual Setting

The Abbott Phillips House is significant under NRHP Criterion C for Architecture. An architectural survey of the building noted "the design of this house draws on sources in French provincial vernacular architecture; the image of picturesque domesticity that it creates was popular in the 1920s and 1930s" (RIHPHC, 1990).

Located on the southern coast of Little Compton, the Abbott Phillips house was designed intentionally with views toward the Atlantic Ocean. Though its significance is derived from the architectural merit of the residence, the location affords unobstructed maritime views from both the house and grounds.

3.2.2 The Stone House Inn

3.2.2.1 Physical Description and Existing Conditions

The NRHP-listed Stone House Inn (also known as the David Sisson House) was built circa 1854 at 122 Sakonnet Point Road in the Town of Little Compton. It is sited on a nearly 3-acre lot, facing south and overlooking Round Pond. The imposing stone residence is three-and-one-half stories tall and has an associated circa 1886 barn. The residence is seven bays wide and three bays deep, with a rectangular footprint. Modern replacement windows occupy each bay. A hipped slate roof features two dormers with paired arched windows. Between them is a large octagonal belvedere. An ornate, wood-framed, two-story wraparound porch is located at the south and west sides. Multiple wings extend from the rear of the building.

3.2.2.2 Historic Context

Providence-based industrialist David Sisson of the Fall River Ironworks commissioned a home at 122 Sakonnet Point Road (architect unknown) which was at the time the largest residence in Little Compton,

and the only one constructed of stone (Connors, 2008). The house was passed to his son Henry and following his Lieutenant Governorship, his family used the Stone House as their primary residence. Financial difficulties resulted in the auctioning of the home in 1902 which marks the change of its use from single-family to inn, and interior renovations and stylistic updates occurred regularly over the past 170 years. An exception to its continual operation was a two-decade closure due to flooding resulting from the Hurricane of 1938 (Connors, 2008).

3.2.2.3 NRHP Criteria and the Maritime Visual Setting

The Stone House Inn is listed on the NRHP and is significant under NRHP Criterion C for Architecture. It was the largest single-family dwelling in Little Compton at the time of its construction, and the only one built of fieldstone. In addition, it derives significance from its use as an inn for the past century, the "only public accommodation for travelers in this intensely private seaside community almost exclusively dominated by single-family houses" (Connors, 2008). The Stone House Inn is sited 10 feet above sea level, at an inland location, with interior views of nearby Round Pond. However, the rooftop belvedere was a unique feature designed that affords farther views to the Atlantic Ocean.

3.2.3 The Warren's Point Historic District

3.2.3.1 Physical Description and Existing Conditions

The Warren's Point Historic District is located on Warren Point, in the southern portion of the Town of Little Compton east of Sakonnet Point, on the southeastern tip of an elevated, rocky peninsula. The point is bordered by the Atlantic Ocean to the east and south and Long Pond on the west. The district includes approximately 155 acres centered along Warren Point Road, which runs north-to-south and serves as a central axis for residential development. The area is characterized by large, affluent residences set on large lots, which are for the most open lawns, oriented to afford views of the adjacent waterbodies.

3.2.3.2 Historic Context

Warren's Point is located east of Sakonnet Point and Long Pond, first colonized by Nathaniel Warren in the seventeenth century. Developed as the Town of Little Compton's first summer resort colony in the 1880s, its picturesque homes were built by wealthy families from the northeast and Midwest, on land subdivided from the former Kempton Farm (RIHPHC, 1990). Presenting a cohesive aesthetic, the picturesque shingle-sided houses all shared views to the Atlantic Ocean. As time moved forward, so did architectural styles. New buildings of the Cape Cod and Modernist designs were added to the collection of residences at Warren's Point through the first half of the twentieth century. Regardless of architectural style, most buildings shared similar landscapes that included manicured lawns and stone walls. The neighborhood was designed as a quiet enclave for the enjoyment of idyllic ocean views. Public access was limited by privatizing streets which continue to operate in this manner.

3.2.3.3 NRHP Criteria and the Maritime Visual Setting

The Warren's Point Historic District has been determined by RIHPHC to be eligible for listing in the NRHP under Criterion A for its association with the establishment of summer coastal resorts in Rhode Island, and

under Criterion C for architecture, including residences that span a wide variety of architectural styles, constructed between 1880 and 1970 and retaining a high degree of integrity. The district is recommended as an appropriate candidate for nomination to the NRHP (RIHPC, 1990) and the *Town of Little Compton Comprehensive Plan* identifies the establishment of a voluntary historic district at Warren Point as a goal for the town relative to historic preservation (Town of Little Compton, 2018a:37).

By deed restriction, early purchasers of the property in Warren's Point were guaranteed overland access to Warren's Point Beach, ensuring a quiet, residential summer colony (Connors, 2008). It was this access and isolation that made Warren's Point a desirable oceanside retreat. Its visual and physical connection to the Atlantic Ocean is at the center of the significance of the district.

3.2.4 Tunipus Goosewing Farm

3.2.4.1 Physical Description and Existing Conditions

The Tunipus Goosewing Farm is located at 540 Long Highway on a peninsula an approximate 60-acre property between Quicksand Pond to the east, Tunipus Pond to the west, and the Atlantic Ocean to the south. According to the property card, the property currently contains a circa 1894 2-story, irregular-shaped house; two one-story circa 1999 guest houses, two one-and-a-half-story guest houses constructed circa 1815; and a circa 1850 two-story limestone, gambrel roof barn with an attached silo (Vision Appraisal, 2022). The property has been recently restored by the current owners (Morgan, 2016).

3.2.4.2 Historic Context

The Tunipus Goosewing Farm was constructed for the Sisson family, who moved to Little Compton from Newport in 1816 (RIHPHC, 1990). The property has remained an active farm since the eighteenth century. According to the *Historic and Architectural Resources of Little Compton, Rhode Island,* Lemuel Sisson raised cows on the property during the nineteenth century (RIHPHC, 1990).

3.2.4.3 NRHP Criteria and the Maritime Visual Setting

The Tunipus Goosewing Farm is located on a peninsula overlooking Quicksand Pond, Tunipus Pond, and the Atlantic Ocean. The property also provides the only access to the town-owned Goosewing Beach. The farm has a strong maritime setting with views across the open agricultural fields to the water in three directions. The relationship of the fields, buildings, and structures on an elevated ridge to the surrounding waters is an integral part of the historic setting. The Tunipus Goosewing Farm is eligible for listing on the NRHP under Criterion A and C for its architecture and its association with the Sisson family and farming in Little Compton.

3.3 Narragansett

3.3.1 Dunmere

3.3.1.1 Physical Description and Existing Conditions

Dunmere, also known as Dunmere Gardener's Cottage, Gate, and Garden, is a 3.4-acre estate located at 560 Ocean Road in Narragansett, Rhode Island, approximately 600 feet from the coastline of Narragansett Bay. The property consists of the original Gardener's Cottage, entrance gate, and associated garden landscape. The Gardener's Cottage is a two-story building featuring granite masonry and wood construction. A three-story conical tower on the south elevation rises above the multi-gabled roof and a massive granite chimney rises from a central point in the roof. Fenestration is varied, with examples of Queen Anne and Eastlake-style windows, including single, fixed-pane and one-over-one, double-hung sash windows, some with colored geometric lights and delicate wood mullions and muntins (Youngken et al., 2005).

The entrance gate is of rough-cut granite construction and features an elliptical arch which appears to emerge from the natural rocky outcrops at the north side of the arch. A two-story conical tower on the south side of the arch features a small rectangular open window. A small, hipped roof projects from the base of the turret over a stone patio. The word "Dunmere" is legible within the design on a pair of decorative wrought-iron gates. Although much of the historic landscape has been removed or destroyed over time, the extant landscape architecture associated with the historic Dunmere estate include some garden terraces, fountains, a man-made pond, stone-arched bridge and stone retaining walls (Youngken et al., 2005).

3.3.1.2 Historic Context

The Dunmere estate was designed by John M. Merrick and constructed in 1883 for investor and financial pioneer Robert G. Dun. Dun began developing his estate after the expansion of Ocean Road and the growth of Narragansett as a recreational resort. Spanning over ten years, the construction at Dunmere included a three-and-one-half-story Queen Anne-style mansion on a rocky outcropping near the sea, a water tower, and a windmill. The landscape design was developed under the direction of the landscape architect Nathan Franklin Barrett, and eventually expended to encompass over 13 acres. The water tower was expanded and renovated to become the present Gardener's Cottage. Several of the estate buildings, including the main house, have been lost over the years to fire and demolition, and the original estate boundaries have been subdivided (Youngken et al., 2005).

3.3.1.3 NRHP Criteria and the Maritime Visual Setting

Dunmere is listed on the NRHP and meets NRHP Criteria A and C for its associations with seasonal maritime recreation in late nineteenth-century New England and for its importance as an example of a seasonal estate complex with Gilded Age landscape design (Youngken et al., 2005). The location of the original mansion near the ocean speaks to the property's historic association with views to and enjoyment of the seascape. The historic properties have views of the open ocean to the east. The remaining buildings are significant due to their importance as elements of a late-nineteenth century seaside estate complex. Dunmere was listed in the NRHP in 2005.

3.3.2 The Ocean Road Historic District

3.3.2.1 Physical Description and Existing Conditions

The Ocean Road Historic District is an approximately 92-acre historic district located in Narragansett, Rhode Island, and includes 45 residences situated on portions of Ocean and Wildfield Farm Roads and Hazard and Newton Avenues. This district consists of various examples of Shingle-style houses and estates situated along the coastline that exhibit a range of expressions of the style. Among the most striking examples of architecture within the district is the unique two-and-one-half-story stone Hazard Castle with a 105-foot-tall tower, the Suwanee Villa Carriage House designed by James H. Taft with its conical tower, and the Colonial Revival-style Rose Lea designed by Willard Kent (Roise, 1981).

3.3.2.2 Historic Context

The history of the Ocean Road Historic District began with the acquisition of the land now encompassing the district boundaries by Joseph P. Hazard. Hazard's initial construction efforts included the Hazard Castle, which took nearly 40 years to complete, but which influenced the style and setting of the surrounding area. Based on Hazard's interpretation of English castles and informed by his spiritualist beliefs, Hazard Castle became the touchstone from which the eclectic slant of the Shingle style was expressed through subsequent development of the seaside resort town. In addition, Hazard began planting trees along the bluffs, ancestors of the trees that make up the wooded area in and around the district today. In addition, many of the residences were designed by prominent architects of the late nineteenth century, such as McKim, Mead, and White, and William Gibbons (Roise, 1981). The district was listed in the NRHP in 1982.

3.3.2.3 NRHP Criteria and the Maritime Visual Setting

The NRHP-listed Ocean Road Historic District meets Criterion C for high-style seasonal residences of the wealthy and famous of the Gilded Age. Most of the contributing properties "stand on dramatic sites overlooking the rocky shoreline and are oriented to the ocean" (NPS, 1982). The district also meets NRHP Criterion A for its association with the maritime resort community that developed around Narragansett Pier. Situated along the coastline, its relationship to the water is central to the significance of the district. Many of the contributing properties within the district enjoy expansive views of the Atlantic Ocean and were sited to take advantage of those vistas.

3.3.3 The Towers Historic District

3.3.3.1 Physical Description and Existing Conditions

The Towers Historic District is an approximately 10-acre district bounded by Exchange Place, Mathewson Street, Taylor Street, and the Atlantic Ocean in the unincorporated village of Narragansett Pier. The district is comprised of 13 contributing resources including the Towers, the Life Saving Station at Narragansett Pier, a town park, and 10 private residences. Additionally, there is one non-contributing resource within the district, a residence built circa 2006 (Town of Narragansett, 2022).

The Towers and the Life Saving Station at Narragansett Pier are substantial Romanesque Revival-style stone buildings. The Towers span Ocean Road, while the Life Saving Station is sited between Ocean Road and the Atlantic Ocean. North and west of the Towers, Memorial Park occupies approximately 1.6 acres. It consists primarily of open lawn, with a memorial fountain set within a paved plaza at the northeast corner and a group of war memorial monuments at the northwest corner (Roise, 1981).

The remaining contributing resources within the district are residences constructed between circa 1822 and 1900 in popular nineteenth-century styles including the Federal, Italianate, Second Empire, Colonial Revival, and Shingle styles. All of the residences feature wood clapboard or shingle siding and retain a generally high degree of integrity. Three of the residences are sited on Ocean Road facing east to the Atlantic Ocean (Roise, 1981).

3.3.3.2 Historic Context

The Town of Narragansett is named for the Narragansett Indian Tribe, the indigenous people of Rhode Island. The town was primarily agricultural in character from the late seventeenth century through the mid-nineteenth century (RIHPHC, 1991a). Piers and wharves constructed along the shore during this time contributed to a diversified economy based on fishing, shipbuilding, and the export of agricultural products. A pier built in the late eighteenth century near the present site of the Towers gave the village of Narragansett Pier its name. One of the contributing resources within the Towers Historic District, the residence at 16 Mathewson Street, was built during this period, circa 1822 (Roise, 1981).

The transformation of Narragansett Pier from a working port village to a tourist destination began in the 1840s, when the first visitors began to spend the summer season as boarders in private homes. The village's first hotel was built in 1856 and by 1871 ten additional hotels were built to serve guests from throughout the Northeast, Mid-Atlantic, and Midwest. The construction of private summer residences and rental cottages soon followed, and Narragansett Pier became a fashionable resort town popular with businesspeople, industrialists, and members of the professional class. The residences within the Towers Historic District were primarily built during this period, as either private residences or rental properties. The Narragansett Casino and the Life Saving Station at Narragansett Pier were both designed by McKim, Mead and White, and constructed in the 1880s (Roise, 1981; RIHPHC, 1991a).

In 1900 a catastrophic fire destroyed most of the Narragansett Casino, along with the Rockingham Hotel and neighboring commercial buildings. Several of the large nineteenth-century hotels also burned in the early decades of the twentieth century. During this period, Narragansett Pier's tourism economy began to shift away from long-term renters towards day-trippers and short-term guests. Other physical changes included damage or destruction of many buildings in the area by hurricanes in 1938, 1954, and 1991. In the post-World War II era, the year-round population of the village and town increased, further altering the Pier's character as a seasonal resort community. Urban renewal activity in the 1970s resulted in the clearance of nineteenth-century buildings from a 28-acre area northwest of the Towers Historic District. The site of the former Narragansett Hotel was purchased by the Town of Narragansett in 1931 and developed as Memorial Park (Roise, 1981; RIHPHC, 1991a). The Towers Historic District was listed in the NRHP in 1982.

3.3.3.3 NRHP Criteria and the Maritime Visual Setting

The Towers Historic District meets National Register Criteria A and C for its relationship to the development of seaside tourism in Narragansett Pier and as a collection of intact nineteenth-century buildings which directly relate to tourism and maritime activity. The district's period of significance is 1850 to 1924 (Roise, 1981). The district as a whole derives historic significance from its seaside location and maritime visual setting. The siting of the Towers and several of the district's residences, in particular, provide expansive views of the ocean, while the Life Saving Station at Narragansett Pier was sited especially close to the ocean in order to facilitate the launch of lifeboats.

3.3.4 The Towers

3.3.4.1 Physical Description and Existing Conditions

The Towers is a multistory stone building with a roughly I-shaped plan formed by two pairs of engaged round towers connected by a massive east-west segmental arch spanning Ocean Road. The building has a steeply pitched main gable roof with multiple dormers while the towers have conical dormered roofs. A wing to the west has dormered hipped roofs. The exterior is of rock faced granite and the roofs are clad in wood shingles. Windows are primarily six-over-one or nine-over-one double hung sash. Primary entrances to the east and west tower sections are located within arched openings below the main arched volume. A small octagonal cupola and lantern are located at the center of the main gable roof. The Towers currently serves as a public event venue and is owned by the Town of Narragansett (Roise 1981; RIHPHC, 1991a).

3.3.4.2 Historic Context

The village of Narragansett Pier was a leading seaside resort town during the last quarter of the nineteenth century. Several grand hotels and numerous private residences and rental cottages were constructed during this period. The Narragansett Casino was built between 1883 and 1886, serving as the center of social activity during the summer season. The rambling casino was designed by McKim, Mead & White, the nationally prominent firm that had designed the Newport Casino just a few years earlier. The stone Towers served as a grand entrance linking the casino to the shore over Ocean Road, while the bulk of the building, consisting of guest rooms, card rooms, and dining rooms, was built of wood. A massive fire on September 12, 1900, destroyed the wood portions of the casino, including the roofs of the Towers, leaving only the stone portions of the Towers standing. The roofs of the Towers were subsequently rebuilt, and the building was acquired by the Town of Narragansett and renovated for use as a town hall. The Towers was individually listed in the NRHP in 1969 and was included as a contributing resource to the Towers Historic District, listed in the NRHP in 1982. Today, the building is utilized as an event venue (Roise, 1981; RIHPHC, 1991a). A major exterior and interior restoration was completed in 2017.

3.3.4.3 NRHP Criteria and the Maritime Visual Setting

The Towers is an iconic building in the village of Narragansett Pier and is the sole remnant of the community's many Gilded Age hotels. The building meets National Register Criteria A and C for its relationship to the development of seaside tourism in Narragansett Pier, as a notable example of seaside recreational architecture in the Romanesque Revival style, and as the work of McKim, Mead & White. The

Narragansett Casino's oceanfront location and orientation provide expansive ocean vistas. This maritime visual setting is a key component of the Towers' historic significance.

3.3.5 The Life Saving Station at Narragansett Pier

3.3.5.1 Physical Description and Existing Conditions

The Life Saving Station at Narragansett Pier, also known as the Coast Guard House, is a two-story stone building located about 50 feet from the Atlantic Ocean on the east side of Ocean Road. The north end of the building is semicircular in plan while the south end is rectangular. The exterior is of rock faced granite ashlar and the gable-conical roof is clad in asphalt shingle. Multiple additions to the north, east, and south, dating from the late twentieth and early-twenty-first centuries, are primarily constructed of wood. The west elevation of the main volume features Roman arch openings which continue along the apsidal north end of the building. A bas-relief sculpture of a ship anchor decorates the parapeted gable end of the south elevation. Three rectangular window openings on this elevation are now obscured by later additions (Jones, 1976).

3.3.5.2 Historic Context

The United States Life-Saving Service was founded in 1848 as a volunteer organization providing rescue services along the New England and Mid-Atlantic coast. Early lifesaving stations consisted of utilitarian structures housing lifeboats and other equipment, often located near dangerous shoals and rocks. The service was nationalized by Congress in 1871, and funding provided for full-time crews to staff lifesaving stations. Congress authorized the construction of two initial stations in Rhode Island in the early 1870s, one on Block Island and the other at Narragansett Pier. This first lifesaving station at Narragansett Pier was a wood structure completed by 1873 north of the public beach (Jones, 1976).

The current Life Saving Station was built in 1888. It was designed by the nationally prominent architecture firm of McKim, Mead & White, which had completed the neighboring Narragansett Casino two years prior. The form and materials of the Life Saving Station complemented those of the casino. The Life Saving Station's ground floor served as a boathouse and had a sloping floor which allowed lifeboats to be launched through the arched openings, while the second floor served as the living quarters for the life station crew (Jones, 1976).

The Life-Saving Service was merged with the Revenue Cutter Service in 1915 to become the United States Coast Guard, which began consolidating lifesaving stations in the 1920s. The Life Saving Station at Narragansett Pier, then known as the Coast Guard House, was closed in 1946. It was subsequently converted into a dining establishment and continues in that function today, having survived damage from Hurricane Carol in 1954 and Hurricane Bob in 1991, as well as a fire shortly before it was listed in the NRHP in 1976. It was included as a contributing resource to the Towers Historic District, listed in the NRHP in 1982 (Jones, 1976; Roise, 1981).

3.3.5.3 NRHP Criteria and the Maritime Visual Setting

The Life Saving Station at Narragansett Pier meets National Register Criteria A and C for its association with the U.S. Life Saving Service and the early development of the U.S. Coast Guard, as a rare surviving example of a nineteenth-century lifesaving station, and as the work of McKim, Mead & White. The building's use as a boat launch necessitated its siting very close to the water on the ocean side of Ocean Road. This maritime visual setting is a key component of the Life Saving Station's historic significance.

3.3.6 Fort Varnum/Camp Varnum

3.3.6.1 Physical Description and Existing Conditions

Fort Varnum/Camp Varnum is currently an Army National Guard training facility located off Cormorant Road on Cormorant Point in Narragansett overlooking Narragansett Bay and the Atlantic Ocean. According to property records, the property currently consists of over 41 acres. Per review of aerial mapping, there are currently approximately 25 buildings on the property, the majority of which were constructed prior to 1963.

3.3.6.2 Historic Context

Fort Varnum/Camp Varnum was established in 1942 at the beginning of World War II as part of the United States military defense of Narragansett Bay. The fort was built to protect the west passage of Narragansett Bay and named after Revolutionary War Brigadier General James Mitchell Varnum (Sevigny, 2012). The original fort consisted of barracks, a mess hall, classrooms, and fire control towers, as well as other buildings (RIHPHC, 1991a). The fort was transferred to the Rhode Island National Guard in 1957 and renamed Camp Varnum (Sevigny, 2012).

3.3.6.3 NRHP Criteria and the Maritime Visual Setting

Fort Varnum/Camp Varnum was constructed to defend Narragansett Bay. Its location on the coast with views of the Bay and the Atlantic Ocean were necessary for the army to defend the coast.

3.3.7 Narragansett Pier MRA

3.3.7.1 Physical Description and Existing Conditions

The Narragansett Pier MRA is located along the coastline of Narragansett Bay and the Atlantic Ocean and consists of residences, resort-related buildings, hotels, religious buildings, the Towers and other buildings dating from circa 1840 to the mid-twentieth century (Roise, 1978).

3.3.7.2 Historic Context

In the late nineteenth century, Narragansett, along with many other coastal New England towns, transformed from a predominately agricultural community to a summer destination. Hotels, summer cottages, and resorts were constructed along the shorelines for the upper-middle- and upper-class residents of nearby New York, Boston and Philadelphia. The first hotel, the Narragansett House was built in 1856 and by 1871, ten hotels existed at the Pier (RIHPHC, 1991a). The Narragansett Casino was designed

by McKim, Mead, and White and was constructed between 1883 and 1860. A fire destroyed the complex and other buildings in the vicinity in 1900, leaving only the Towers.

3.3.7.3 NRHP Criteria and the Maritime Visual Setting

The Narragansett Pier MRA is significant under Criterion A for its association with the transformation of Narragansett from a rural, farming community to a summer resort as well as under Criterion C for its architecture. Many buildings within the MRA were designed by some of the most prominent architects of the time in a variety of styles including Italianate, Second Empire, Stick, Shingle, Queen Anne and Second Empire (Roise, 1978).

The MRA's location along Narragansett Bay as well as its history and existence as a summer resort colony are intrinsic to its maritime setting. Buildings were sited on the water or to have views of the water and were designed for people wanting to escape the heat of the city and be on the water. The most architecturally significant properties are located on the coast, including the Towers and the Life Saving Station.

3.3.8 The Dunes Club

3.3.8.1 Physical Description and Existing Conditions

The Dunes Club is addressed as 137 Boston Neck Road. The property is located on 32.16 acres on Little Neck, off Boston Neck Road, on Beach Street, between the road, of Narragansett Bay and the Atlantic Ocean, and the Pettaquamscutt River, also known as the Narrow River (Town of Narragansett, 2022).

There are six resources that contribute to the Dunes Club, the property also has seven noncontributing buildings and structures. The clubhouse is a one-and-a-half-story building with a lantern cupola constructed in 1939 in the colonial revival style. Connected by a wood deck to the east of the clubhouse are a pool constructed in 1928 and one-story bathhouses constructed in 1939. Further east are three U-shaped cabana buildings constructed in 1939. A one-story, gable-roofed staff house constructed in 1939 is located to the north of the clubhouse. The staff house complex is four buildings connected around a central courtyard. The gatehouse is located at the entrance of the property at the intersection of Beach Street and Boston Neck Road. The gatehouse is a hipped-roof turreted building constructed in 1928. All of the buildings, except the gatehouse, have sustained damage in multiple hurricanes and have had alterations and/or partial reconstructions (Youngken, 2015).

3.3.8.2 Historic Context

With the ease of travel by train and ferry, during the mid-to-late nineteenth century, wealthy families from New York, Philadelphia, and Boston began frequenting the southern New England coast in the summer to get away from the heat of the cities. Resort hotels and summer homes were constructed, and summer colonies and resorts were developed.

In the 1920s the Dunes Club was founded by wealthy summer residents of Narragansett to establish a private club after the casino was destroyed by fire in 1900. The original Dunes Club was constructed between

1928 and 1929. Kenneth Murchison, Jr., an architect from New York, was the original architect and designed the club in the Mediterranean Revival style, which was the popular style for these types of clubs at the time (North Carolina Architects and Builders, 2022; RIHPHC. 1991). The complex was destroyed in the hurricane of 1938, and only the gatehouse and pool remain from the original club (Youngken, 2015).

In 1938-1939 the Dunes Club was reconstructed. The new complex was designed by Thomas Pym Cope, an architect from Philadelphia. Cope designed the clubhouse, bathhouses, cabanas, and staff housing complex as part of the original plan for the club (Youngken, 2015).

3.3.8.3 NRHP Criteria and the Maritime Visual Setting

The Dunes Club is listed on the NRHP as an "excellent example of the private American beach club facility of the early-to-mid-20th century." The club is significant under Criterion A for its association with coastal Rhode Island, and in particular Narragansett, becoming a summer destination. The Dunes Club was established as a members-only club by summer residents from Philadelphia and New York. The Dunes Club is also significant under Criterion C for its architecture. As stated above, Thomas Pym Cope designed the original Dunes Club complex including the clubhouse, gatehouse, bathhouses, cabanas and staff housing complex (Youngken, 2015).

The Dunes Club is located on Little Neck, between the Atlantic Ocean, and the Pettaquamscutt River. As a private beach club, this historic property has a clear maritime setting with access and views of Narragansett Bay and the Atlantic Ocean.

3.4 New Shoreham

3.4.1 Historic Context of New Shoreham

Block Island was home to Native Americans for thousands of years prior to its initial "discovery" by European explorers. Archaeological studies indicate indigenous people were visiting or living on the island at least 7,000 years ago. Giovanni da Verrazzano is credited with discovering and describing the inhabited island during a 1524 voyage to the New World. Sixteen families moved to Block Island in 1662, representing the first permanent European settlement in present-day New Shoreham. For the next two centuries the island's residents developed a significant fishing and processing industry for fish products. Enslaved Africans were among the island's earliest post-Contact Period inhabitants. A National Harbor was established early in the Island's history, and seasonal tourism began in the early-to-mid nineteenth century. Block Island's proximity to major northeastern cities, as well as its natural scenic landscape and charm led to its development as a summer destination. Development of inns, hotels, and other amenities increased around the harbor in the mid-nineteenth century, with the first public house built in 1842 (Gibbs, 1974). As transportation to the island improved with the first recreational steamboat in 1858, the development of summer beach cottages increased. By the mid-nineteenth century it became known as the "Bermuda of the North." The present harbor was constructed between 1870 and 1876 consisting of two rip-rap granite breakwaters that remain relatively unchanged to this day. Although many tourists stayed in boarding houses, inns, and hotels,

seasonal summer cottages were being constructed in large numbers by the mid-1880s. It was well-established as a recreation destination for the regional elite by 1890 (Scofield and Adams, 2012).

The resort economy had declined in the first half of the twentieth century but rebounded with the construction of an airport in 1950 (Gibbs, 1974). By the early 1970s, pressure from new development spurred the creation of the Block Island Conservancy. This effort has contributed to the preservation of open rural spaces on the island and the historic fabric of much of the island's-built environment (PAL, 2012).

3.4.2 New Shoreham Historic District

3.4.2.1 Physical Description and Existing Conditions

The New Shoreham Historic District is a local historic district/historic district overlay (Town of New Shoreham Historic District Commission, 2022a). The historic district is located along Spring, Water, and Ocean Avenues and Corn Neck Road roughly bounded to the southeast by Amy Dodge Lane; to the northeast by Trims Pond; to the north by Great Salt Pond; and to the west at the intersection of West Side and Champlin Roads (Town of New Shoreham GIS, 2022). There are 321 parcels located within the boundaries of the district including the Old Harbor Historic District, residences, commercial buildings, town-owned properties, and vacant land (Town of New Shoreham Historic District Commission, 2022b).

The topography within the district is that of relatively low and gently rolling hills, with some slightly higher elevations around the periphery, such as along Old Town Road to the west and Spring Street to the south. The buildings within the district include three-and-one-half- and four-and-one-half-story hotels and inns facing the ocean along Water Street, and smaller one-and-one-half- and two-and-one-half-story residences inland and just outside of the village center. The extant historic buildings feature architectural styles of the mid- to late-nineteenth century, such as Gothic Revival, Second Empire, and Queen Anne. Many recently constructed buildings feature matching forms and materials evocative of this period, helping to maintain the historic feeling and association with the district's period of significance. Mansard roofs are common, especially on the hotels and inn buildings, while the residences typically feature gables. Powerful storm surges attributed to global climate change have increased in recent years, leading to damage to both man-made and natural resources within the district (Kelly, 2021). This situation has increased the need for major planning and conservation efforts on Block Island.

3.4.3 Corn Neck Road Historic District

3.4.3.1 Physical Description and Existing Conditions

The Corn Neck Road Historic District is a cultural landscape that encompasses the entire northern tip of Block Island, surrounded by the Atlantic Ocean on three sides and bounded by Mansion Road to the south. The district includes 29 contributing buildings dating back to the eighteenth century, including the NRHP-listed Block Island North Light (74000008). The landscape features bucolic settings, open fields, forested areas, stone walls, and historic farmsteads. It was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.4 Indian Head Neck Road Historic District

3.4.4.1 Physical Description and Existing Conditions

The Indian Head Neck Road Historic District is located along a peninsula between Corn Neck Road and great Salt Pond on Block Island. The district consists of five one-and-one-half-story summer cottages with wrap-around porches on large parcels. These cottages were built during the late nineteenth century for seasonal tourists and later for year-round residences. The district has clear views of the ocean and was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.5 The Mitchell Farm Historic District

3.4.5.1 Physical Description and Existing Conditions

The Mitchell Farm Historic District is an historic district located along Corn Neck Road on the narrow isthmus between Great Slat Pond and Rhode Island Sound on Block Island. It includes fifteen contributing properties dating from the mid-eighteenth to the mid-twentieth century. Small, forested areas and open fields are delineated by stone walls. It was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.6 The Beach Avenue Historic District

3.4.6.1 Physical Description and Existing Conditions

The Beach Avenue Historic District is a small, compact neighborhood on a narrow spit separating Trims Pond and Harbor Pond. The district encompasses residential and inn properties built in the late nineteenth to early twentieth centuries. The U.S. Weather Bureau Station and Hygeia House properties, both listed on the NRHP, are contributing resources to the historic district. Well-preserved examples of several architectural styles are included, ranging from Second Empire to Gothic Revival to Neoclassical (PAL, 2012). Although eclectic, the district retains its essential cohesiveness and distinction among the compact developments of Block Island.

3.4.7 The Lakeside Drive and Mitchell Lane Historic District

3.4.7.1 Physical Description and Existing Conditions

The Lakeside Drive and Mitchell Lane Historic District is an historic district located between Lakeside Drive and Cooneymus Road, just south of the Block Island airport. The district includes Fresh Pond and thirteen contributing buildings. The buildings within the district date from the mid-eighteenth to the mid-twentieth century. The landscape is a significant element of this district, featuring gently rolling topography, stone walls, open fields, and modest homestead which characterize the historic lifeways of Block Island. The district was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.8 The Champlin Farm Historic District

3.4.8.1 Physical Description and Existing Conditions

The Champlin Farm Historic District is an historic farmstead located on approximately 16.6 acres of land along Coast Guard Road on Block Island. The farm complex consists of a two- and-one-half-story frame residence, two frame barns, and four sheds. The farm is associated with the Champlin family, who have been farmers on Block Island since the late eighteenth century. The property was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.9 The Old Town and Center Roads Historic District

3.4.9.1 Physical Description and Existing Conditions

The Old Town and Center Roads Historic District is an historic district located in the center of Block Island consisting of what was once the original town center, from the west boundary of the Old Harbor Historic District to Center Road. The district includes 48 contributing properties that date from the late-seventeenth to the mid-twentieth century. Historic markers denote the locations of non-extant mills and structures. The oldest structure in the district is the Samuel Ball house, constructed in 1680. The district represents the traditional architecture and development of early Block Island and was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.10 The Beacon Hill Historic District

3.4.10.1 Physical Description and Existing Conditions

The Beacon Hill Historic District is an historic district located west of the Block Island airport from Beacon hill Road to Old Mill Road in the south. It is representative of residential, agricultural, and military development on Block Island and was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.11 Lewis-Dickens Farm

3.4.11.1 Physical Description and Existing Conditions

The Lewis Farm and Dickens Farm Road Historic District is an historic agricultural landscape district encompassing most of the southeast corner of Block Island from Cooneymus Road to the Atlantic Ocean. It consists of thirteen contributing properties dating from the mid-eighteenth to the mid-twentieth century. Landscape features such as stone walls and open fields enhance the pastoral setting of the district. It was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.4.12 The Pilot Hill Road and Seaweed Lane Historic District

3.4.12.1 Physical Description and Existing Conditions

The Pilot Hill Road and Seaweed Lane Historic District is an historic district located along Pilot hill Road between Payne Road and Mohegan trail at the southeast corner of Block Island. It includes ten properties that date from the mid-eighteenth to the mid-twentieth century and is also characterized by stone walls

and open agricultural fields that give a pastoral setting to the district. The district represents both the residential development and the seasonal tourism of Block Island and was determined eligible for listing on the NRHP in 2012 (PAL, 2012).

3.5 Newport

3.5.1 The Ochre Point – Cliffs Historic District

3.5.1.1 Physical Description and Existing Conditions

The Ochre Point – Cliffs Historic District is located in the eastern portion of Newport and is roughly bounded to the north by Memorial Boulevard, to the east by Easton Bay, to the south by Marine Avenue and to the west Bellevue Avenue. Seventy-one contributing resources are identified in the National Register Nomination Form. The Cliff Walk, which is a 3.5-mile, National Recreational Trail, that runs from First/Easton's Beach to Baileys Beach, is also a contributing resource to the Ochre Point – Cliffs Historic District.

3.5.1.2 Historic Context

Like many coastal New England cities and towns, Newport became a summer resort destination in the mid-nineteenth century. Properties along and adjacent to Bellevue Avenue were chosen as prime locations for some of the wealthiest Americans to build summer cottages due to their locations on the cliff and views to the water. Most of the properties also had designed landscapes surrounding the buildings.

3.5.1.3 NRHP/NHL Criteria and the Maritime Visual Setting

The Ochre Point – Cliffs Historic District is significant under Criterion A for its contribution to Newport becoming a summer resort and the social history of its summer residents and Criterion C for its architecture and designed landscapes.

As stated above, contributing resources of the Ochre Point – Cliffs Historic District were constructed on or nearby Bellevue Avenue to take advantage of the views of Easton Bay and the Atlantic Ocean. The landscapes surrounding many of the properties were also designed to take advantage of the views. The Cliff Walk features expansive views of the Atlantic Ocean, which are integral to the visual and maritime setting of the trail.

3.5.2 The Ocean Drive Historic District, National Historic Landmark

3.5.2.1 Physical Description and Existing Conditions

The Ocean Drive Historic District is both listed on the NRHP and was designated as an NHL district on May 11, 1976 (Longstreth, 1976; Pitts, 1976). The Ocean Drive Historic District is made up of 45 contributing properties located in a 1,509-acre suburban/rural setting encompassing most of the Newport Neck peninsula southwest of the City of Newport, Rhode Island. The summer homes in this district feature great

variety in style and opulence, ranging from Neoclassical-style residences to early nineteenth-century farms. The coastline features promontories and jetty-like rock formations.

3.5.2.2 Historic Context

The first European to occupy Newport Neck was William Brenton, who was an important founding figure in the history of Newport. Brenton and his descendants worked to develop the landscape for agriculture, erected the first buildings, and cut trails for the frequent visitors to the land. The area became a seasonal retreat for the wealthy even prior to the Revolutionary War. After being destroyed by the British during the Revolutionary War, Newport Neck remained rural for decades. By the mid-nineteenth century the community in Newport and along Bellevue Avenue to the north and east of the present-day Ocean Drive Historic District grew and the elite citizens utilized Newport Neck for daytime excursions to enjoy the pastoral setting. By the turn of the twentieth century, overland transportation had improved, and the building of large estates began. Landscape development was carried out by the well-known landscape architect Frederick Law Olmsted and his firm. In the late twentieth century, several of the large estate houses were demolished, but the rural character of the district was cultivated and maintained (Longstreth, 1976).

3.5.2.3 NRHP/NHL Criteria and the Maritime Visual Setting

The summer homes in the Ocean Drive Historic District feature great variety in style and opulence, ranging from Neoclassical-style mansions to early nineteenth-century farms. In contrast to the adjacent Bellevue Avenue Historic District, however, Ocean Drive (aka Ocean Avenue) is decidedly more bucolic and rural, with greater expanses between structures accentuated by natural and designed landscapes. The national significance of the Ocean Drive Historic District is derived from its architecture, which includes works from McKim, Mead and White, John Russell Pope, and landscape architecture by Frederick Law Olmstead (Pitts, 1976). In 2012 an updated statement of significance was appended to the NHL nomination which elaborated and expanded upon the initial areas of Criterion C significance such as architecture and landscape design. The update also addressed additional Criterion A areas of significance such as planning, and engineering related to maritime views and design features purposefully built to interact with the shoreline and the ocean. The updated nomination materials also included a detailed account of the evolution of Ocean Drive as a "pleasure drive" to accompany the development of the inland areas as an upper-income resort suburb. In addition, the landscape architecture firm of Frederick Law Olmstead was involved in at least two subdivisions and 15 private contract designs within the district. These designs include properties situated on dramatic overlooks, and along Ocean Drive. Clearly this roadway was specifically constructed to take advantage of ocean views.

3.5.3 Bellevue Avenue Historic District National Historic Landmark

3.5.3.1 Physical Description and Existing Conditions

The Bellevue Avenue Historic District National Historic Landmark is approximately two miles long and consists of 87 contributing properties in a 606-acre district occupying several blocks along Bellevue Avenue, from Memorial Boulevard in the north, to Block Island Sound in the south, in the City of Newport. Spring Street and Cogshell Avenue form the western boundary of the district, while Narragansett Bay forms the

eastern boundary. From north to south, this district features two miles of commercial blocks and villas, notably ending in the south with the grand and palatial nineteenth-century estates of wealthy summer residents.

The Cliff Walk is a contributing resource to the Ochre Point-Cliffs Historic District, which is part of the Bellevue Avenue Historic District, and designated a National Recreational Trail. The Cliff Walk extends approximately 3.5 miles along the eastern coastline of Aquidneck Island and the Bellevue Avenue Historic District, situated on the rocky outcrops of the shore and featuring expansive views of Easton Bay and the Atlantic Ocean. The Cliff Walk is part of the typical experience for visitors to the Newport mansions, is open to the public, and has been described as "Rhode Island's #1 tourist destination" with (reportedly) over 1.2 million visitors per year (Winthrop, 2021). Portions of the Cliff Walk were washed away in Hurricane Sandy and were recently restored/rebuilt with grant funds from the RIHPHC and National Park Service (RIHPHC, 2019b).

3.5.3.2 Historic Context

During its early decades and up to the mid-nineteenth century, Newport primarily grew around the downtown area to the north of Bellevue Avenue. The notable historic properties within the National Historic Landmark district were built during the Gilded Age, when some of the wealthiest Americans engaged in massive high-style residences for use as summer homes. Many of the estates in this district were designed by world-renowned master architects, including Richard Upjohn, Richard Morris Hunt, and McKim, Mead, and White. The district possesses many distinctive examples of high-style architecture. The district was listed as a National Historic Landmark on May 11, 1976.

3.5.3.3 NRHP/NHL Criteria and the Maritime Visual Setting

The significance by which the district was originally listed is primarily focused on architecture, commerce, and landscape architecture. While the significance attributed to the district does not explicitly reference the ocean, the estates were sited to take advantage of the ocean views. For example, property names such as "Sea View Terrace" and "Ocean View" imply that maritime views are essential to the district's identity. In addition, the NRHP nomination form for the Ochre Point-Cliffs Historic District (a contributing property to the Bellevue Avenue Historic District NHL), contains the following reference:

> *[The Ochre Point-Cliffs Historic District] has a fine, elevated north-easterly view over the lower, Easton's Beach, part of Newport, and, easterly out past Middletown's hill and on towards Sakonnet, Westport and Cape Cod, far out into the Atlantic horizon. This high, grassed promontory had its obviously desirable features even though Bellevue Avenue was the first fashionable allee* (Harrington, 1974).

A major focus of the Ochre Point-Cliffs Historic District portion of the Bellevue Avenue Historic District is the Cliff Walk. The Cliff Walk was designed specifically to afford maritime views, as illustrated in the following excerpt from the nomination document:

The [Cliff]Walk provides spectacular views at every point, as it winds near many mansions and occasionally dips down to the shore. Originally a fishermen's trail, the Cliff Walk was at one time the subject of a court battle between the owners of the estates bordering the walk-way and the public. The estate-owners wished to prevent public access and viewing across their properties and erected gates and other barriers to close the Walk and prevent such nuisance. Such action outraged the native Newporters, who went to court and won a decision which re-asserted the right of the public to an unobstructed foot-way around the island. Thus, the barriers were removed, and the present foot-path was laid out, with much use ever since, with maintenance undertaken first by the Works Progress Administration in the 1930's-1940's, and by the municipality in more recent years (Harrington, 1974).

3.6 South Kingstown

3.6.1 Browning's Beach Historic District

3.6.1.1 Physical Description and Existing Conditions

The Browning's Beach Historic District is an NRHP-listed district located in South Kingstown along a private drive extending south of Cards Pond Road (also referred to as Card Ponds Road). The district encompasses approximately 20 acres and includes single family residences constructed in the late nineteenth and early twentieth century as part of a residential complex (Youngken, 1997). The district boundaries stretch south from Cards Pond Road, include a small peninsula extending west into Cards Pond and continues south to the barrier beach facing the Atlantic Ocean.

Review of modern aerial photography reveals that only five of the contributing resources are currently extant, including three buildings on the barrier beach, one building on the peninsula in Cards Pond, and one building on the east side of the private drive between the peninsula and the barrier beach. The buildings appear to have been removed or demolished between 2012 and 2014 (Google Earth, 2022).

3.6.1.2 Historic Context

The collection of residences constituting the Browning's Beach Historic District were constructed between circa 1895 and circa 1905 as a coastal Rhode Island summer colony, a popular trend at this time throughout coastal Rhode Island. It originated as a private enclave for a group of prominent Rhode Island families including the Knight, Webster, Lapham-Treat, and Noyes families. The complex was designed to take advantage of the recreation offered by the seaside location. There was a communal boardwalk traversing the ocean dunes, a beach cabana which housed changing rooms for bathing, as well as a tennis court, a large stable, shared water system, and shared private drive providing access to the residences (Youngken, 1997).

The district was listed in the NRHP in 1997 and consisted of 10 contributing buildings and one non-contributing building. The contributing buildings consisted of single dwellings representing Queen Anne, Shingle, and Craftsman/Bungalow-style residences constructed between circa 1895 and circa 1905. The district featured wood-framed, one-story to two-and-one-half-story houses. A variety of roofing forms were

found in the district, including gabled, gambrel, and gable-on-hip roofs. These houses were typically sheathed in wood shingles, but board-and-batten siding was also present. The private drive providing access to the residences was narrow and graveled (Youngken, 1997).

3.6.1.3 NRHP Criteria and the Maritime Visual Setting

The Browning's Beach Historic District meets NRHP Criterion C as a collection of late-nineteenth and early-twentieth century residences constructed as a summer colony in coastal Rhode Island. The district derives its significance from its maritime location on the coast, representing the significant trend of summer colonies in Rhode Island. The beach provided recreation for the residents, and by extension the view and setting of the Atlantic Ocean is a significant element to the historic district.

3.7 Tiverton

3.7.1 Puncatest Neck Historic District

3.7.1.1 Physical Description and Existing Conditions

Puncatest Neck is located in the southwestern portion of Tiverton between Nonquit Pond and the Sakonnet River. The 1979 RIHPHC report entitled *Historic and Architectural Resources of Tiverton, Rhode Island: A Preliminary Report,* identified 18 resources within the potential historic district as well as a ferry landing site, three former wharves, and the King Philip's War Battle Site (RIHPHC, 1979c). Of the 18 historic homes identified, it appears 17 are extant. The district runs along Puncatest Neck Road with the northern boundary approximately where Puncatest Neck Road takes a sharp, ninety-degree turn, to the southern end of the road, and along Fogland Road and includes Fogland Point.

While many of the properties have additions, seventeen of the residences appear to retain the integrity and significance to be eligible for listing on the NRHP. One of which, the Cook-Bateman Farm, is individually listed on the NRHP and one, the William Almy Farm/Fogland Farm/Puncatessett at 435 Puncatest Neck Road has been demolished. The former sites of the wharves, ferry land and the King Philip's War Battle Site would also be contributing resources to this historic district. The contributing resources are as follows:

- Cook Almy House – 58 Fogland Road
- Almy House – 103 Fogland Road
- John Almy House – 148 Fogland Road
- Former Site of Almy's Ferry Landing – Fogland Point
- Former Site of Almy's Wharf – Fogland Road
- Captain Gideon Wilcos House – 425 Puncatest Neck Road
- A. Wilcoc House – 481 Puncatest Neck Road
- Captain Fernando Wilcox House – 488 Puncatest Neck Road
- Peleg Cory House – 531 Puncatest Neck Road
- J. Piece House – 532 Puncatest Neck Road
- Captain George Gray House – 560 Puncatest Neck Road
- Isaac G. White House – 563 Puncatest Neck Road

- Robert Gray House – 630 Puncatest Neck Road
- Stephen Grinnell House – 677 Puncatest Neck Road
- Otis Almy House/Heathersfield – 737 Puncatest Neck Road
- Horace Almy House/Nanquit Farm – 807 Puncatest Neck Road
- Samuel E. Almy House – 494 Puncatest Neck Road
- Cook-Bateman Farm – 958 Puncatest Neck Road
- Ferol Bink Farm – 993 Puncatest Neck Road
- King Philip's Battle Site– Fogland Road
- Cory's Wharf/White's Wharf – Fogland Point
- Pierce's Wharf – Fogland Point

3.7.1.2 Historic Context

In 1659, Puncatest Neck was granted to 75 freeman of Plymouth Colony and 36 lots were defined, although no "substantial structures" were built. On July 8, 1675, one of the battles of King Philip's War was fought on Puncatest Neck. The first known structures were constructed around 1680 by the Church and Almy families. During the seventeenth and eighteenth centuries, Puncatest Neck was primarily agricultural. In the early eighteenth century a ferry was established on Fogland Point connecting Tiverton to Dartmouth and Newport and in the early nineteenth century the first wharf was established, shifting the economy of Puncatest Neck toward maritime related industries including fishing, oystering, and whaling. The wharf was expanded circa 1863 and in 1870 a second wharf was constructed. As industry increased, new residences were constructed, both modest and more opulent and in the late nineteenth century and through the twentieth century, additional residences were constructed to be used as summer residences (RIHPHC, 1979c).

3.7.1.3 NRHP Criteria and the Maritime Visual Setting

The Puncatest Neck Historic District is eligible for listing under Criterion A for its association with the history of Tiverton, including farming, maritime, and summer colony development as well as the architecture of the contributing resources.

Similar to other coastal communities in the region, in the late nineteenth century and through the twentieth century, summer cottages, resorts, and summer colonies began to develop in Tiverton particularly on Puncatest Neck and Nannaquaket Neck (RIHPHC, 1979). These areas were attractive to the upper class for their proximity to Boston and New York and their locations on the water. As stated above, Puncatest Neck is located between Nonquit Pond to the east and Sakonnet River to the east and Nannaquaket Pond is located on the eastern side of Nannaquaket Neck and the Sakonnet River is located to the west.

4.0 MITIGATION MEASURES

Mitigation measures at the historic properties are detailed in this section. These mitigation measures were developed in consultation with the RIHPHC and consulting parties.

4.1 NRHP Nominations for the Abbott Phillips House, the Warren Point Historic District, and the Tunipus Goosewing Farm

4.1.1 Purpose and Intended Outcome

The purpose of this mitigation measure is to recognize and document the historic and cultural significance of the Abbott Phillips House, the Warren Point Historic District, and the Tunipus Goosewing Farm by completing NRHP Nomination Forms for each property. Listing properties on the NRHP not only documents the history of the area and specific properties but can help build community knowledge and pride. Nomination Forms can be used as educational tools for both the owners of the properties and the community as a whole and can help guide the future restoration and rehabilitation of the buildings. NRHP listing also allows properties to be eligible for state and federal grant funding and historic tax credit programs. NRHP listing does not place any restrictions on a property, nor does it prevent the remodeling or demolition of the building or allow for public access to the building. It does not in any way restrict the rights of the private property owner.

4.1.2 Scope of Work

This work is anticipated to consist of the following:

- Consulting with the Participating Parties and property owners;
- Research of available historic sources and documentation;
- Field survey and conditions assessments;
- Annotated photographs;
- Drafting of the NRHP listing document;
- Submitting the preliminary draft NRHP Nomination for review and comment to the Participating Parties;
- Developing a final draft NRHP Nomination to be provided to the Participating Parties; and
- If the NRHP nomination is formally reviewed by the RIHPHC's State Review Board, then the consultants who prepared the nomination will be available to present the nomination.

4.1.3 Methodology

Revolution Wind will release a request for proposals (RFP) to hire a SOI Qualified Professional consultant to perform the scope of work listed in Section 4.1.2. The consultant selected will prepare a draft nomination form, prepared in accordance with applicable NPS and RIHPHC guidance. The draft document will include a historic context and statement of significance, identification, photographs, and descriptions of all contributing resources, and all maps and photographs required by NPS guidance. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.1.4 Standards

The mitigation measure will comply with following standards:

- The SOI's Guidance on the *Identification of Historic Properties* (36 CFR 800.4);
- The SOI's *Professional Qualifications Standards* (36 CFR Part 61);
- The NPS *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,* as applicable (NPS, 1997a);
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the NRHP Nomination Forms; and
- Revised draft of the NRHP Nomination Forms.

4.1.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.2 Update the Existing *Historic and Architectural Resources of Narragansett, Rhode Island*

4.2.1 Purpose and Intended Outcome

The purpose of this mitigation measure is to revise and update the 1991 Historic and Architectural Resources of Narragansett, Rhode Island survey to reflect existing conditions within the Town of Narragansett and to identify cultural landscapes and other types of cultural resources that may have been under-emphasized in prior surveys. The survey results will assist the Town of Narragansett, the State of Rhode Island, and members of the public in planning and prioritizing efforts to preserve significant elements of the Town's architectural and historical heritage for future generations. This measure aligns with the key priorities and objectives of *Comprehensive Statewide Historic Preservation Plan for Rhode Island, 2021-2027* to ensure current, accessible information on the full range of historic and heritage resources are available in all Rhode Island communities (RIHPHC, 2021: "Goal One"). The survey will also provide substantive support to the Town of Narragansett and its citizens in meeting the standards established by the Rhode Island Comprehensive Planning Advisory Committee (*The Rhode Island Comprehensive Planning Standards Guidance Handbook Series Guidance Handbook #4*: Standard 4.1)

4.2.2 Scope of Work

The scope of work will consist of the following:

- Research of available historical archival sources and existing documentation, including surveys and assessments conducted in compliance with local, state and federal preservation regulations and ordinances;
- Consultation with the Town of Narragansett, local and state preservation organizations, and other knowledgeable parties to identify and prioritize types of historic architectural or landscape resources under-represented in existing survey data;
- Field survey, annotated photographs, and mapping;
- Drafting of a Survey Report to be distributed to the Participating Parties for review and comment;
- Development of a final Survey Report which addresses comments from the Participating Parties; and
- Distribution of the final Survey Report to the Participating Parties.

4.2.3 Methodology

Revolution Wind will release a RFP for consultant services and select a consultant to perform the scope of work listed in Section 4.2.2. The consultant selected will prepare a draft survey, prepared in accordance with applicable National Park Service and RIHPHC guidance. The draft document will include a methodology, an updated historic context and history of Narragansett, associated maps, photographs, building descriptions, and inventory forms as required by RIHPHC. The draft survey will be distributed to the Participating Parties for review and comment. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.2.4 Standards

The project will comply with the following standards:

- The *Secretary of the Interior's Guidance on the Identification of Historic Properties* (36 CFR 800.4);
- The *Secretary of the Interior's Standards and Guidelines – Professional Qualifications Standards, for Archaeology, History, Architectural History and/or Architecture* (62 FR 33708);
- National Park Service's *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*;
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.2.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;

- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the Survey Report; and
- Final Survey Report.

4.2.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.3 NRHP Nominations for the following NRHP-eligible historic properties: Champlin Farm Historic District, Mitchell Farm Historic District, Beacon Hill, Lewis-Dickens Farm, Lakeside Drive and Mitchell Lane, Indian Head Neck Road, Beach Avenue, Old Town and Center Roads, Corn Neck Road, Pilot Hill Road and Seaweed Lane, and the New Shoreham Historic District

4.3.1 Purpose and Intended Outcome

The purpose of this mitigation measure is to complete NRHP Nomination Forms to recognize and document the historic and cultural significance of each of the following NRHP-eligible historic districts: Mitchell Farm Historic District, Champlain Farm Historic District, Beacon Hill, Lewis-Dickens Farm, Lakeside Drive and Mitchell Lane, Indian Head Neck Road, Beach Avenue, Old Town and Center Roads, Corn Neck Road, Pilot Hill Road and Seaweed Lane, and the New Shoreham Historic District. This measure aligns with the key goals and objectives of the Rhode Island State Preservation Plan (RIHPHC, 2021) and the Town of New Shoreham's Comprehensive Plan (2016) to recognize and protect historic and heritage assets. The development of the revised nomination would afford multiple opportunities for the Town, and residents to consider the existing, somewhat arbitrary, boundary of the historic district and, in consultation with the RIHPHC, assess whether additional properties in the vicinity contribute to the significance of the district, as a whole.

Listing properties on the NRHP not only documents the history of the area and specific properties but can help build community knowledge and pride. Nomination Forms can be used as educational tools for both the owners of the properties and the community as a whole and can help guide the future restoration and rehabilitation of the buildings. NRHP listing also allows properties to be eligible for state and federal grant funding and historic tax credit programs. NRHP listing does not place any restrictions on a property, nor does it prevent the remodeling or demolition of the building or allow for public access to the building. It does not in any way restrict the rights of the private property owner.

4.3.2 Scope of Work

This work is anticipated to consist of the following:

- Consulting with the Participating Parties and property owners;
- Research of available historic sources and documentation;
- Field survey and conditions assessments;

- Annotated photographs;
- Drafting of the NRHP listing document;
- Submitting the preliminary draft NRHP Nomination for review and comment to the Participating Parties;
- Developing a final draft NRHP Nomination to be provided to the Participating Parties; and
- If the NRHP nomination is formally reviewed by the RIHPHC's State Review Board, then the consultants who prepared the nomination will be available to present the nomination.

4.3.3 Methodology

Revolution Wind will release a RFP for consultant to perform the scope of work listed in Section 4.3.2. The consultant selected will prepare a draft nomination form, prepared in accordance with applicable NPS and RIHPHC guidance. The draft document will include a historic context and statement of significance, identification, photographs, and descriptions of all contributing resources, and all maps and photographs required by NPS guidance. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.3.4 Standards

The project will comply with following standards:

- The SOI's Guidance on the *Identification of Historic Properties* (36 CFR 800.4);
- The SOI's *Professional Qualifications Standards* (36 CFR Part 61);
- The National Park Service's (NPS) *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,* as applicable (NPS, 1997a);
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.3.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the NRHP Nomination Forms; and
- Revised draft of the NRHP Nomination Forms.

4.3.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.4 Update the NRHP Nomination for the Ochre Point – Cliffs Historic District

4.4.1 Purpose and Intended Outcome

The purpose of this mitigation measure is to provide funding to hire a SOI qualified professional to update the existing form. The Ochre Point – Cliffs Historic District NRHP nomination form was completed in 1975. The Ochre Point – Cliffs Historic District is located in the eastern portion of Newport and is significant for its architecture as well as the development of the City of Newport. The intent of this measure is to document the current conditions of the district, confirm the boundaries, and identify and document the contributing and non-contributing resources.

Properties on the NRHP not only document the history of the area and specific properties but can help build community knowledge and pride. Nomination Forms can be used as educational tools for both the owners of the properties and the community as a whole and can help guide the future restoration and rehabilitation of the buildings. NRHP listing also allows properties to be eligible for state and federal grant funding and historic tax credit programs. NRHP listing does not place any restrictions on a property, nor does it prevent the remodeling or demolition of the building or allow for public access to the building. It does not in any way restrict the rights of the private property owner.

4.4.2 Scope of Work

This work is anticipated to consist of the following:

- Consulting with the Participating Parties and property owners;
- Research of available historic sources and documentation;
- Field survey and conditions assessments;
- Annotated photographs;
- Drafting of the NRHP listing document;
- Submitting the preliminary draft NRHP Nomination for review and comment to the Participating Parties;
- Developing a final draft NRHP Nomination to be provided to the Participating Parties; and
- If the NRHP nomination is formally reviewed by the RIHPHC's State Review Board, then the consultants who prepared the nomination will be available to present the nomination.

4.4.3 Methodology

Revolution Wind will release a RFP for consultant to perform the scope of work listed in Section 4.4.2. The consultant selected will prepare a draft updated nomination form, prepared in accordance with applicable NPS and RIHPHC guidance. The draft document will include a historic context and statement of significance, identification, photographs, and descriptions of all contributing resources, and all maps and photographs required by NPS guidance. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.4.4 Standards

The project will comply with following standards:

- The SOI's Guidance on the *Identification of Historic Properties* (36 CFR 800.4);
- The SOI's *Professional Qualifications Standards* (36 CFR Part 61);
- The National Park Service's (NPS) *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,* as applicable (NPS, 1997a);
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.4.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the NRHP Nomination Form; and
- Revised draft of the NRHP Nomination Form.

4.4.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.5 NHL Nomination Form for the Ocean Drive Historic District

4.5.1 Purpose and Intended Outcome

The Ocean Drive Historic District was designated an NHL in 1976 when the original NRHP nomination was completed and accepted by NPS. A subsequent nomination was drafted in 2008 but has not been accepted by NPS. The purpose of this mitigation measure is to provide funding to hire a SOI qualified professional to complete an NHL nomination form for the Ocean Drive Historic District document the current conditions of the district, confirm the boundaries, and identify and document the contributing and non-contributing resources.

4.5.2 Scope of Work

This work is anticipated to consist of the following:

- Consult with NPS, Participating Parties, and property owners;
- Review of existing Ocean Drive Historic District nomination form;
- Research of available historic sources and documentation;
- Field survey, conditions assessments, NRHP-eligibility analysis;
- Annotated photographs;

- Drafting of the NHL nomination;
- Submitting the draft for review and comment to the Participating Parties;
- Developing a final NHL Nomination to be provided to the Participating Parties; and
- If the NRHP nomination is formally reviewed by the RIHPHC's State Review Board, then the consultants who prepared the nomination will be available to present the nomination.

4.5.3 Methodology

Revolution Wind will release a RFP for consultant to perform the scope of work listed in Section 4.5.2. The consultant selected will prepare a draft updated nomination form, prepared in accordance with applicable NPS and RIHPHC guidance. The draft document will include a historic context and statement of significance, identification, photographs, and descriptions of all contributing resources, and all maps and photographs required by NPS guidance. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.5.4 Standards

The project will comply with following standards:

- The SOI's Guidance on the *Identification of Historic Properties* (36 CFR 800.4);
- The SOI's *Professional Qualifications Standards* (36 CFR Part 61);
- The National Park Service's (NPS) *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,* as applicable (NPS, 1997a);
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.5.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the NRHP Nomination Form; and
- Revised draft of the NRHP Nomination Form.

4.5.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.6 NHL Nomination Form for the Bellevue Avenue Historic District

4.6.1 Purpose and Intended Outcome

The Bellevue Avenue Historic District was designated an NHL in 1976 when the original NRHP nomination was completed and accepted by NPS. The purpose of this mitigation measure is to provide funding to hire a SOI qualified professional to complete an NHL nomination form for the Bellevue Avenue Historic District document the current conditions of the district, confirm the boundaries, and identify and document the contributing and non-contributing resources in the historic district.

4.6.2 Scope of Work

This work is anticipated to consist of the following:

- Consult with NPS, Participating Parties, and property owners;
- Review of existing Ocean Drive Historic District nomination form;
- Research of available historic sources and documentation;
- Field survey, conditions assessments, NRHP-eligibility analysis;
- Annotated photographs;
- Drafting of the NHL nomination;
- Submitting the draft for review and comment to the Participating Parties;
- Developing a final NHL Nomination to be provided to the Participating Parties; and
- If the NRHP nomination is formally reviewed by the RIHPHC's State Review Board, then the consultants who prepared the nomination will be available to present the nomination.

4.6.3 Methodology

Revolution Wind will release a RFP for a consultant to perform the scope of work listed in Section 4.6.2. The consultant selected will prepare a draft updated nomination form, prepared in accordance with applicable NPS and RIHPHC guidance. The draft document will include a historic context and statement of significance, identification, photographs, and descriptions of all contributing resources, and all maps and photographs required by NPS guidance. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.6.4 Standards

The project will comply with following standards:

- The SOI's Guidance on the *Identification of Historic Properties* (36 CFR 800.4);
- The SOI's *Professional Qualifications Standards* (36 CFR Part 61);
- The National Park Service's (NPS) *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,* as applicable (NPS, 1997a);
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.6.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the NRHP Nomination Form; and
- Revised draft of the NRHP Nomination Form.

4.6.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.7 Updated Historic Resources Surveys of the Green Hill and Matunuck Neighborhoods

4.7.1 Purpose and Intended Outcome

Per the request of RIHPHC, Revolution Wind will provide funding to hire a SOI qualified professional to complete an update of the existing *Historic and Architectural Resources of South Kingstown, Rhode Island: A Preliminary Report*, which was completed in 1980. The updated historic resources surveys will identify and document historic and potentially historic properties located within the of the Green Hill and Matunuck neighborhoods.

4.7.2 Scope of Work

The scope of work will consist of the following:

- Review the existing *Historic and Architectural Resources of South Kingstown, Rhode Island: A Preliminary Report*;
- Review existing historic property documentation available at local repositories and the RIHPHC files;
- Develop a methodology for completion of the survey to be distributed to the Participating Parties for review and comment;
- Complete survey per the approved methodology;
- Develop a draft survey report to be distributed to the Participating Parties for review and comment;
- Develop final report, addressing the comments received, to be distributed to the Participating Parties.

4.7.3 Methodology

Revolution Wind will release a RFP for consultant services and select a consultant to perform the scope of work listed in Section 4.7.2. The consultant selected will prepare a draft survey, prepared in accordance with applicable National Park Service and RIHPHC guidance. The draft document will include a methodology, an updated historic context and history of the neighborhoods, associated maps, photographs, building

descriptions, and inventory forms as required by RIHPHC. The draft survey will be distributed to the Participating Parties for review and comment. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.7.4 Standards

The exhibit will conform to the following standards:

- The SOI's *Professional Qualifications Standards* (36 CFR Part 61), as applicable;
- RIHPHC guidance;

4.7.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFP;
- Proposals by qualified consultants in response to the RFP;
- Preliminary draft report; and
- Final report.

4.7.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.8 NRHP Nomination for Puncatest Neck Historic District

4.8.1 Purpose and Intended Outcome

The purpose of this mitigation measure is to recognize and document the historic and cultural significance of the Puncatest Neck Historic District by completing an NRHP Nomination Form. Listing properties on the NRHP not only documents the history of the area and specific properties but can help build community knowledge and pride. Nomination Forms can be used as educational tools for both the owners of the properties and the community as a whole and can help guide the future restoration and rehabilitation of the buildings. NRHP listing also allows properties to be eligible for state and federal grant funding and historic tax credit programs. NRHP listing does not place any restrictions on a property, nor does it prevent the remodeling or demolition of the building or allow for public access to the building. It does not in any way restrict the rights of the private property owner.

4.8.2 Scope of Work

This work is anticipated to consist of the following:

- Consulting with the Participating Parties and property owners;
- Research of available historic sources and documentation;

- Field survey and conditions assessments;
- Annotated photographs;
- Drafting of the NRHP listing document;
- Submitting the preliminary draft NRHP Nomination for review and comment to the Participating Parties;
- Developing a final draft NRHP Nomination to be provided to the Participating Parties; and
- If the NRHP nomination is formally reviewed by the RIHPHC's State Review Board, then the consultants who prepared the nomination will be available to present the nomination.

4.8.3 Methodology

Revolution Wind will release a RFP to hire a SOI Qualified Professional consultant to perform the scope of work listed in Section 4.8.2. The consultant selected will prepare a draft nomination form, prepared in accordance with applicable NPS and RIHPHC guidance. The draft document will include a historic context and statement of significance, identification, photographs, and descriptions of all contributing resources, and all maps and photographs required by NPS guidance. A final draft will be produced by the consultant that incorporates comments and additional information provided by the Participating Parties.

4.8.4 Standards

The mitigation measure will comply with following standards:

- The SOI's Guidance on the *Identification of Historic Properties* (36 CFR 800.4);
- The SOI's *Professional Qualifications Standards* (36 CFR Part 61);
- The NPS *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,* as applicable (NPS, 1997a);
- *National Register Bulletin 16a: How to Complete the National Register Registration Form* (NPS, 1997b); and
- RIHPHC guidance.

4.8.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Preliminary Draft of the NRHP Nomination Form; and
- Revised draft of the NRHP Nomination Form.

4.8.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with the Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

5.2.2 Revolution Wind, LLC

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.3 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was developed in consultation with the RIHPHC and other Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties.

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ATTACHMENT 12 – HISTORIC PROPERTIES TREATMENT PLAN FOR THE REVOLUTION WIND FARM: NINE HISTORIC PROPERTIES, TOWN OF MIDDLETOWN, NEWPORT COUNTY, RHODE ISLAND

Historic Property Treatment Plan

for the

Revolution Wind Farm

Nine Historic Properties

Town of Middletown, Newport County, Rhode Island

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	The Bailey Farm The Clambake Club of Newport Paradise Rocks Historic District Sea View Villa St. George's School: Church of St. George, Little Chapel, and Memorial Schoolhouse The Indian Avenue Historic District Whetstone The Land Trust Cottages The Bluff/John Bancroft Estate
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
EDR	Environmental Design and Research, D.P.C.
DEIS	Draft Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FR	Federal Register
HPTP	Historic Property Treatment Plan
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
RFP	Request for Proposals
RIHPHC	Rhode Island Historical Preservation & Heritage Commission
ROD	Record of Decision
RWF	Revolution Wind Farm
USCG	United States Coast Guard
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for the Bailey Farm, which is listed on the National Register of Historic Places (NRHP); the Clambake Club of Newport, which is listed on the NRHP; the Paradise Rocks Historic District, which is a Rhode Island Historical Preservation & Heritage Commission (RIHPHC) Historic Resource; the Sea View Villa, which is a RIHPHC Historic Resource; the St. George's School: Church of St. George, Little Chapel, and Memorial Schoolhouse, which is listed on the NRHP; the Indian Avenue Historic District which is listed on the NRHP; Whetstone, which is a RIHPHC Historic Resource; the Land Trust Cottages, which is a RIHPHC Historic Resource; and the Bluff/John Bancroft Estate, which is a RIHPHC Historic Resource, (the historic properties) provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects in the *Historic Resources Visual Effects Analysis – Revolution Wind Farm* (HRVEA; EDR, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act of 1966 (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve potential adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic properties included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic properties are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic properties, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

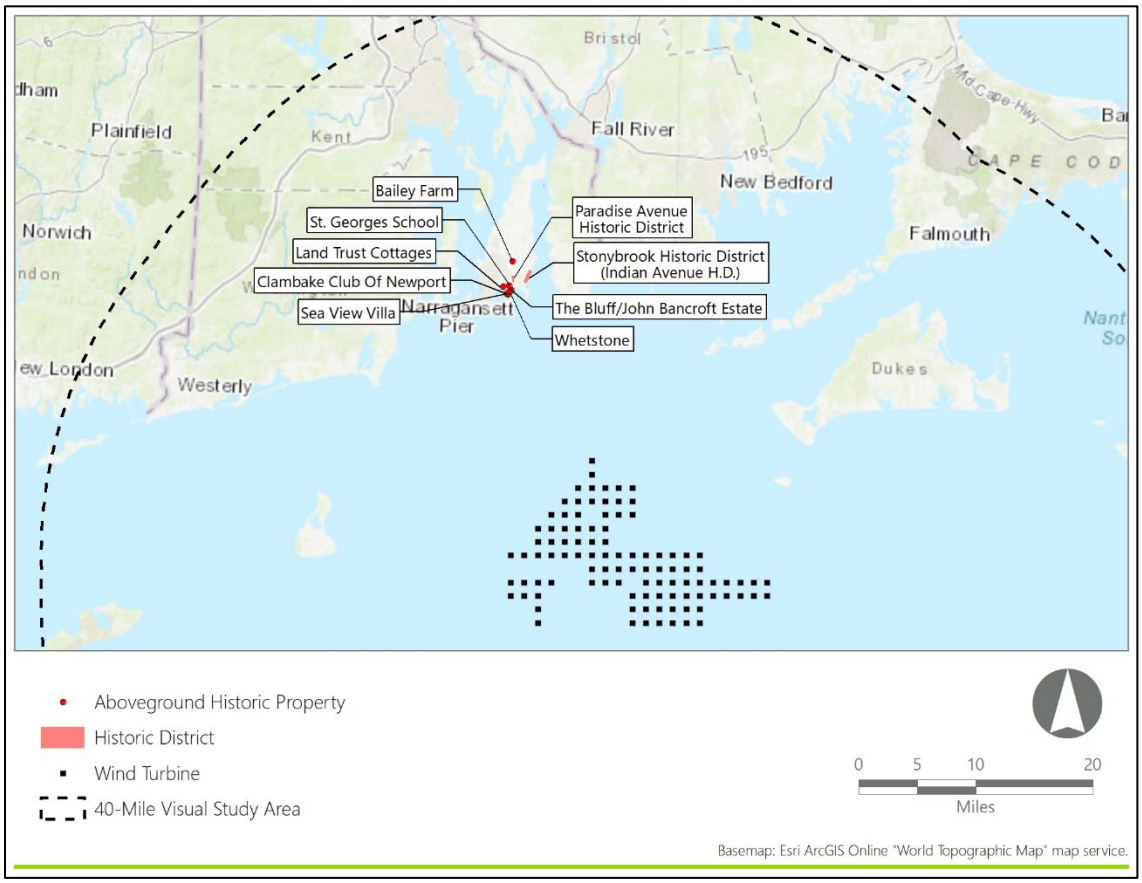
- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Project Location



2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of an ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB). This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2, Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historic commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021 pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic properties and invited the following parties:

- The Town of Middletown
- The Rhode Island Historical Preservation & Heritage Commission.

3.0 EXISTING CONDITIONS, HISTORIC SIGNIFICANCE, AND MARITIME SETTING

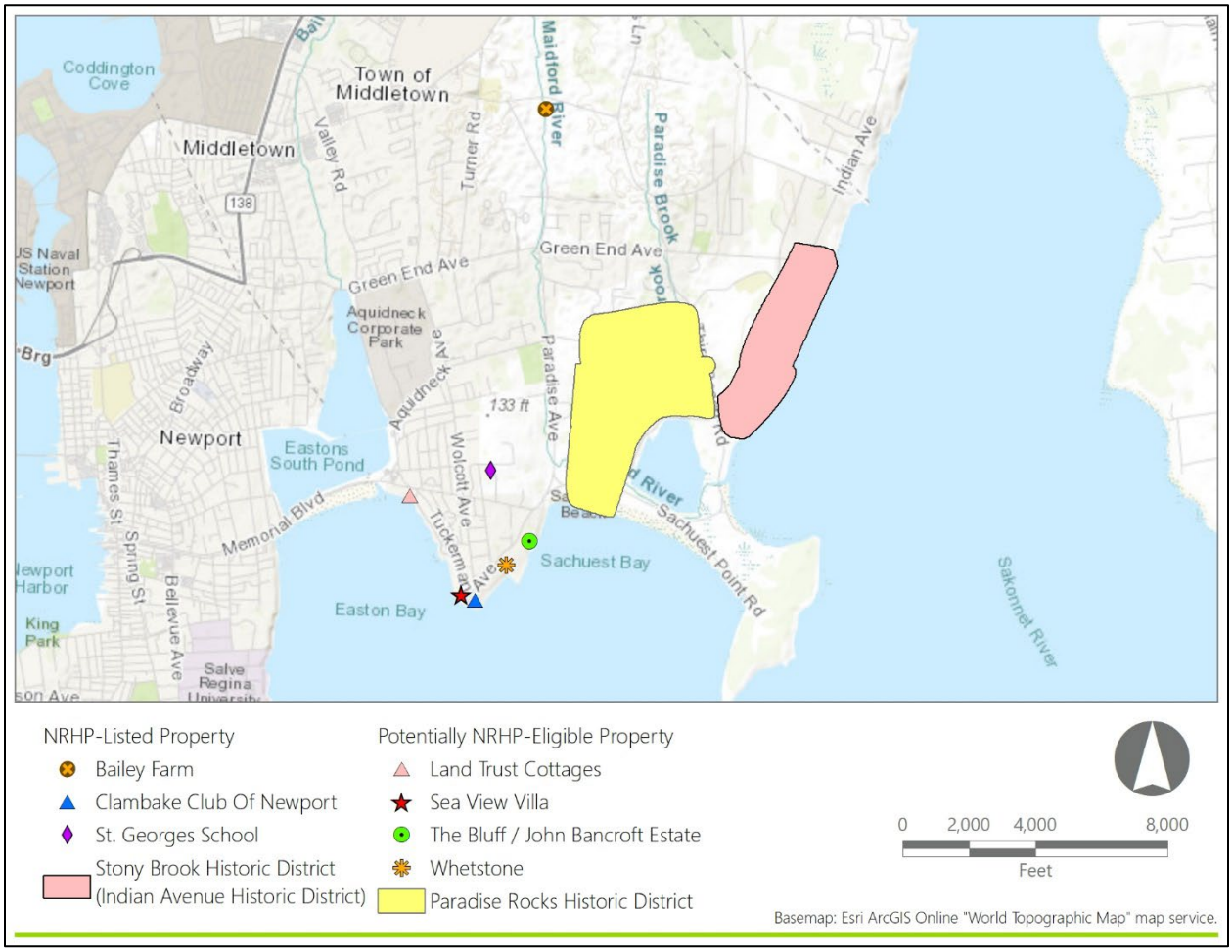
3.1 Historic Properties

This HPTP involves nine historic properties, as identified in Table 3.1-1 and located on Figure 3.1-1.

Table 3.1-1. Historic Properties included in the HPTP

Name	Property Designation	Municipality	State	Site No. (Agency)	Ownership	Historic Property Type
Bailey Farm	NRHP-Listed	Middletown	RI	84001887 (NPS Ref. #84001887)	Private	Agricultural Properties
Clambake Club of Newport	NRHP-Listed			95001267 (NPS Ref. #95001267)	Private	Recreational Properties
Paradise Rocks Historic District	RIHPHC Historic Resource			MT 4 (RI SHPO)	Private (Multiple)	Historic Buildings and Structures
Sea View Villa	RIHPHC Historic Resource			MT 75 (RI SHPO)	Private	Historic Buildings and Structures
St. George's School: Church of St. George, Little Chapel, and Memorial Schoolhouse	NRHP-Listed			4001235 (NPS Ref. #04001235)	Private	Historic Buildings and Structures
Indian Avenue Historic District	NRHP-Listed			9000708 (NPS Ref. #09000708)	Private (Multiple)	Historic Buildings and Structures
Whetstone	RIHPHC Historic Resource			MT 77 (RI SHPO)	Private	Historic Buildings and Structures
Land Trust Cottages	RIHPHC Historic Resource			903	Private	Historic Buildings and Structures
The Bluff/John Bancroft Estate	RIHPHC Historic Resource			MT 78 (RI SHPO)	Private	Estates and Estate Complexes

Figure 3.1-1. Historic Property Locations



In Sections 3.23 through 3.11, each historic property is individually considered, described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.2 Maritime Setting

For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this report.

The historic properties identified in this HPTP are included within the following property types as defined in the HRVEA: "Historic Buildings and Structures," "Historic Cemeteries and Burial Grounds," "Agricultural

Properties," "Recreational Properties," and "Estates and Estate Complexes." Each property type is defined below as well as the characteristics typical of their maritime setting.

"Historic Buildings and Structures" includes buildings and associated properties historically used as residences (in some instances their current use may be commercial, municipal, institutional, or otherwise non-residential) and is the largest grouping of above-ground historic properties within the PAPE. Historic Buildings and Structures within the PAPE consist mostly of vernacular residences, or groupings of residences, although this above-ground historic property type also includes historic parks and stone markers. The overall character of these individual above-ground historic properties and districts is residential or intended for public enjoyment, as opposed to the grand mansions and summer "cottages" built by wealthy industrialist families that typified the "Estates and Estate Complexes" property type (see below). These above-ground historic properties are typically listed due to each resource's unique significance or the combined significance of the resources forming an historic district, and usually qualify under National Register Criteria A and C. These factors are shared among the resource to a degree which justifies their grouping as an above-ground historic property type.

Historic Buildings and structures not fitting within the previously described types occur throughout the study area and in a variety of local contexts. Location and orientation of such properties is critical to understanding the nature of any associated maritime settings. Many historic structures were oriented to local roadways, with the front and rear elevations parallel to the nearby road's alignment. Local roadways along the region's shorelines often parallel the water's edge and Historic Buildings frequently shift in orientation along such coastal roads. This variation in orientation may strongly influence the associated views of marine waters that may form important elements of a property's historic setting.

"Historic Cemeteries and Burial Grounds" consists of cemeteries identified by federal, state, or local governmental agencies as having historic significance. These above-ground historic properties may be municipally owned cemeteries on public land, small family plots on private land, or abandoned burial grounds. Historic cemeteries are lasting memorials to the past, provide a guide to the changing values and composition of communities in the course of their historic development.

Historic cemeteries and burial ground vary throughout the study area. Small, private, non-denominational and family cemeteries were relatively common in New England, and many have survived to present-day. Many examples of small cemeteries were associated with specific farms or families and were frequently placed within the available agricultural lands surrounding a farmstead or near multiple associated family farms. Where such burial grounds are located near the water they may be associated with ocean or other maritime viewsheds, however, ocean vistas are less likely to have been a significant consideration in the siting of such cemeteries than their larger, more formal counterparts in the region. Where cemeteries are located within districts or other historic settlements strongly associated with maritime settings, such burial grounds may be sited to maintain a visual connection to the waters in order to maintain a sense of continuity linking the departeds' final resting places with the environment in which they lived. Cemeteries in urban locations expressing such patterns may include formal design elements associated with the "rural cemetery movement" of the 19th century, which sought to create naturalistic, park-like settings to express "an

appreciation of nature and a sense of the continuity of life" (NPS National Register Bulletin 41: 6). Maritime views from hillside cemeteries that were intentionally incorporated or framed by landscape designs may be more sensitive to discordant modern elements than those associated with less formal burial grounds that may not have been specifically located to provide ocean views.

"Agricultural Properties" consist of historic farm buildings and landscapes which have retained a high degree of integrity and are generally no longer used for their original purpose. These above-ground historic properties feature barns, farmhouses, and large, open tracts of pastureland. Generally, these above-ground historic properties do not derive their significance in any direct way from the ocean or maritime activities.

Historic agricultural properties, including farms, farmhouses, barns and related buildings and structures are relatively common in the study area. Many of these properties were built between 1700 and 1850, after which agricultural economies in New England and New York declined sharply. The historic settings for such properties typically include open, agrarian landscapes which once may have afforded open views of the seas when sited along the shoreline or at higher elevations within the coastal interior. Few of the once expansive agrarian landscapes associated with the historic use of the region's farms survive. Some have been altered by later residential and commercial development and many have been transformed by reforestation. Despite these changes, historic agricultural properties remain an important part of the region's heritage and tangible expression of several centuries of intensive farming that transformed the landscapes throughout southern New England and eastern Long Island.

"Recreational Properties" is defined by the role these properties served in their original functions as places for the resort tourism economy of the late-nineteenth century to flourish. These above-ground historic properties feature beaches, casinos, restaurants, and other buildings and structures built to entertain seasonal vacationers. They are typically located near the shoreline or immediately adjacent to the sea, and in some cases, are the beaches themselves. The enjoyment of, and interaction with, the sea are integral features of the significance of these above-ground historic properties. In many cases, the beachfront, shoreline, and adjacent ocean waters are prominent features of the historic setting due to their close association with historic recreational activities.

The same macroeconomic trends that saw the decline of the quintessential New England farm in the mid-19th century are associated with a population shift to cities and rise in affluence for some segments of society. Summer resorts, supported by steamships, rail transportation, and eventually, automobiles were developed in numerous locations in the study area in the late 19th century. These resorts varied between properties intended to serve the rising group of "upper middle income" families living in the region's cities to estate-like developments serving a more affluent set. Seaside resorts, like many other shoreline recreational, commercial, and residential properties, were often sited to take advantage of aesthetically pleasing ocean or maritime views. Depending on location and the the conformation of the local shoreline, such properties may be associated with specific bay or cove viewsheds that include limited areas of the open ocean waters. Recreational activities at resorts frequently included swimming and designated beaches where residents and visitors may have spent considerable time during the summer months. Where these features are still present and express a tangible association with the historic resort property, views from

beaches may be as important as views from more formal elements of the designed landscape. Likewise, historic hotels and inns became more common elements of the region's shoreline communities in the late 19th century. Such properties were often sited near harbors, ferry landings, rail stations, and public or private beaches and may be associated with similar historic maritime settings. Views to ocean waters or the more intimate bays and coves of the region may have been an integral part of the visitor's motivation for staying in such establishments. Such considerations can be expressed through the inclusion of building and landscape features clearly intended to afford views of ocean. Older taverns and inns in the study area may be found along the working harbors and ports and were intended to serve the fishing, whaling, and related participants in maritime commerce. The design and location of these properties may not show the same influence of aesthetic considerations but will likely also retain a strong association with the waterfront and maritime environment.

"Estates and Estate Complexes" consists of high-style residences, or groupings of residences, typically designed by prominent architects of the nineteenth and early twentieth centuries, such as Richard Morris Hunt and McKim, Mead and White. This property type consists mainly of the mansions and summer "cottages" built by wealthy industrialist families, drawn to the vicinity of Newport, Rhode Island as it became a prominent vacation and recreation area for the emerging American elite, and to Montauk Point as a naturalistic and remote enclave.

Estates built by or for wealthy families have been part of the region's landscapes for centuries and many such properties are located along the shorelines. High style, architect-designed mansions and associated landscapes are characteristic of several areas within the study area and many such properties were sited to take advantage of ocean views. The importance of maritime settings to these properties may be apparent in the design of building features such as veranda, porches, and large windows facing the water or through landscape elements and overall designs that were intended to frame specific views towards the seas. As with many other historic property types, the conformation of local shorelines and the specific orientation of each property may be important in assessing the association with specific aspects or elements of each associated viewshed.

3.3 The Bailey Farm

3.3.1 Physical Description and Existing Conditions

The Bailey Farm (NPS Ref. #84001887, originally inventoried as the Chapman House and Farm) is an approximately 47-acre farm located at 373 Wyatt Road in Middletown, Road Island, approximately 2.25 miles from the coastline in Sachuest Bay (Figure 3.1-1). The property consists of a central, main farm complex including the original farmhouse, a barn, associated outbuildings including sheds and garages, and a cistern. The fields surrounding the central farm complex are still in use (predominantly as a vineyard) and are bound and interlaced with dry-laid stone walls. The Bailey family burying ground is located in the northwestern corner of the parcel, partially enclosed by a stone wall and modern metal fence. The Maidford River (a small brook) runs north to south, bisecting the property immediately west of the central farm complex (Nebiker et al., 1984; RIHPC, 1979a:40).

A more modern house (constructed circa 1930) with associated outbuildings is located in the northwestern corner of the property north of the Bailey family burying ground but does not contribute to the historical significance of the Bailey Farm (Nebiker et al., 1984).

The frame of the Bailey farmhouse dates from the mid-eighteenth century but was renovated in the nineteenth century Greek Revival style, including a large brick center chimney and three-bay façade. The outbuildings date from the mid-nineteenth to early-twentieth century (likely replacements for earlier barns and sheds) and have gabled roofs, but have been updated with modern shingles, windows, and fixtures (such as solar panels). Though the outbuildings have been updated and/or replaced, they retain their original placement and orientation to the road and the surrounding landscape (Nebiker et al., 1984).

3.3.2 Historic Context

The Bailey Farm was once a farmstead occupying as much as 100 acres that was owned and occupied by the Bailey family, who were settlers of nearby Newport, throughout the eighteenth and into the nineteenth century. When the farmhouse underwent its Greek Revival renovations in 1838 the property was owned by Easton Bailey. The property was sold by the Bailey family in the 1850s and was bought and sold several times before being purchased by Peleg Sherman in 1878. His family owned the land until 1918, until it was sold to the Nunes family, whose descendants still owned the property at the time of the Bailey Farm's nomination for the NRHP in 1979. In the year 1850, under the operation of James Gardiner, the Bailey Farm produced $200 worth of fruits and vegetables, and $210 worth of meat, marking a relatively prosperous operation compared to other Rhode Island hill farms (RIHPC, 1979b; RIHPC, 1979a:40; Nebiker et al., 1984).

3.3.3 NRHP Criteria and the Maritime Visual Setting

The NRHP-listed Bailey Farm meets Criterion A for its associations with the nineteenth-century agriculture of island farms of Narragansett Bay and NRHP Criterion C for its importance as an example of architecture and engineering of the Greek Revival, with a period of significance from 1825-1849 (Nebiker et al., 1984). The Bailey Farm was listed on the NRHP in 1964 and enjoys views to Sachuest Bay.

3.4 The Clambake Club of Newport

3.4.1 Physical Description and Existing Conditions

The Clambake Club of Newport is a one-story building located on the bluff at Easton Point. It is a wood-framed, wood-shingled structure laid out in an L-shaped plan. Each wing is covered by a gabled roof, with cedar shingles, punctuated by large stone chimneys. Horizontal cedar-board siding covers the exterior. Several minor additions protrude from the sides of the original building. Areas of exposed foundation show a mix of irregularly cut stone and/or stucco. On the south side of the structure, which drops off to the water, the building is supported by masonry piers (Werenfels, 1995; RIHPC, 1979b:34).

The main entrance on the north side of the structure is cross-gabled, with an arched fan-light window above the wood-paneled entrance door. Stone piers support a flat roof outside the main entrance. The south side of the structure is characterized by a series of enclosed porches. The porches all have an arrangement of

large viewing windows that offer views of the Rhode Island Sound. The porch at the western end of the south side of the structure has a stone terrace outside (Werenfels,1995).

Two outbuildings are also located on the property, the Chef's Cottage and the Guest Cottage. The Chef's Cottage is a small, wood-framed, one-story building with a gabled roof on the north end of the property. The exterior of the Chef's Cottage is also covered in horizontal cedar-board siding. The roof is made of asphalt shingles. The Guest Cottage is a small, wood-framed, one-story building with a gabled roof located on the western end of the property. The Guest Cottage has a gabled entrance portico, and a large bay window facing the Rhode Island Sound to the south. The exterior to the Guest Cottage is covered in horizontal cedar-board siding, and has a cedar shingle roof (Werenfels,1995).

3.4.2 Historic Context

The Clambake Club of Newport has occupied the site at Easton's Point since the 1890s, officially organizing as a club to utilize the property in 1895. An existing dwelling and stable on the property were improved upon beginning in 1897 when they entered into a formal rental agreement with the owner of the property. In 1903 the Clambake Club of Newport property was purchased by founding member Center Hitchcock, who constructed the first clubhouse facility specifically built for the Clambake Club's activities sometime between 1903 and 1907. Club records indicate the facility was likely designed by Colonel Francis Hoppin. A photograph from 1910 shows a simple, one-story building with gabled roofs (Werenfels, 1995).

The original building (with some small additions) survived until September 21, 1938, at which time a hurricane destroyed portions of the building on its southern and eastern ends, though the main body of the building survived the storm. The club was rebuilt in 1939 by William L. Van Alen of Wilmington, Delaware, though it is unclear how much of the original structure was incorporated into the design of the new building. However, the simple, one-story gabled-roof character of the building remained the same (Werenfels, 1995; RIHPC, 1979b:34).

The two outbuildings are not depicted on the 1921 Sanborn Map Co. *Atlas of Newport, Jamestown, Middletown and Portsmouth, Rhode Island* (Sanborn, 1921) and it is unclear if they existed before the 1938 hurricane or if they were later additions to the property (Werenfels, 1995).

3.4.3 NRHP Criteria and the Maritime Visual Setting

The Clambake Club of Newport is significant under NRHP Criterion A for its associations with the late nineteenth-century and early twentieth century entertainment and recreation movements, specifically the seaside recreational facilities on Rhode Island and New England coastlines used for clambakes, social gatherings, and sporting activities such as fishing and shooting. The Clambake Club of Newport has a period of significance from 1875-1949 and is still in use as a private club today (Werenfels, 1995). The location of the main building, and both outbuildings speak to the property's historic association with views to and enjoyment of the seascape. Large bay windows and multiple porches extending towards the water show the importance of the ocean views and the immediate proximity of the waterfront to the historical character of the property. It was listed in the NRHP in 1995.

3.5 The Paradise Rocks Historic District

3.5.1 Physical Description and Existing Conditions

The Paradise Rocks Historic District is located at the south end of Middletown, to the north of Gardiner Pond and Second Beach. According to the Rhode Island Historical Preservation & Heritage Commission (1979a:17), "On an island devoted largely to agricultural, residential, commercial, and industrial uses, the Paradise Rocks area is a superb and unique natural enclave." The Paradise Rocks Historic District is a largely undeveloped area, with portions of the district set aside as wildlife sanctuaries. The district encapsulates Nelson Pond and Paradise Brook, and is named for Paradise Rocks, a north-south trending outcropping of fine blue-hued conglomerate rock" (RIHPC, 1979a:2). The Paradise Rocks Historic District consists of several resources, both natural and man-made. These include Hanging Rock, the Smith-Gardiner-Norman Farm, Gray Craig Estate, the Allen-King-Norman Farm, and the Norman Bird Sanctuary and Museum. The history of each resource is described in the following section.

3.5.2 Historic Context

For most of its history, the area within Paradise Rocks Historic District was left in its natural state. Unlike the surrounding area (i.e., Stonybrook Historic District), the District did not become a location for numerous sprawling summer estates. During the nineteenth century, the area was utilized for agriculture and hunting. By the twentieth century more "passive recreation" was enjoyed in the bird sanctuary, with only several residences constructed (RIHPC, 1979a:17). A description and history of some of the resources within the District is listed below.

Hanging Rock

Hanging Rock is a conglomerate-rock mass near Second Beach that juts out into a marsh, with an abrupt cliff-like break at its south end. According to the Rhode Island Historical Preservation & Heritage Commission, (1979a:17-18), the rock was also known as "Berkeley's Seat" during the eighteenth century, as it was a favorite location of Bishop George Berkeley. Today, it is a popular tourist attraction.

Smith-Gardiner-Norman Farm (Paradise Farm)

The Smith-Gardiner-Norman Farm is an NRHP-listed historic district located on 129 acres. The property consists of a mid-eighteenth-century farmhouse with later additions, a mid-nineteenth century barn, two agricultural outbuildings, two burial sites, a stone-lined sheep pen, stone-lined pastures and fields, wooded areas, Hanging Rock, and an abandoned bluestone quarry. The farmhouse consisted of a two-and-a-half story structure rebuilt in the late nineteenth century in the Colonial Revival style. According to the Rhode Island Historical Preservation & Heritage Commission (1979a:18), the farmhouse had a gambrel roof, two interior brick chimneys, a central entry with sidelights in a veranda, gable dormers in front, and a flat roof addition.

The property was primarily farmed by tenant farmers from 1850 to 1900. However, it was best known as the summer residence of George H. and Abbie Kinsley Norman who bought the property in 1898. Mabel

Norman Cerio, the last private owner of the Smith-Gardiner-Norman Farm, adapted the farmhouse and immediate neighboring fields for use as a main residence in 1915. Cerio bequeathed much of the estate to the Norman Bird Sanctuary Trust for use as a bird sanctuary in 1949, which continues to be its use today. At the time of Cerio's death, a 16-acre parcel comprising the Paradise Farmhouse, outbuildings, and agricultural fields along Third Beach Road remained in the hands of the Norman heirs. Various fields were leased for commercial use until the 1990s. In the late 1990s, the Norman Bird Sanctuary purchased this parcel and reintegrated it into the sanctuary (Town of Middletown, 2015).

Gray Craig

Gray Craig, also known as the Michael M. Van Bueren House, was once the farm of one the earliest families in Middletown during the eighteenth century. The resource as it exists today consists of a large two-and-a-half story stone house with four chimneys and views of Sachuest Beach and the Atlantic Ocean. Updates were made to the estate by Mary and Michael Van Bueren during the early twentieth century to transform the estate into a chateau-like house. Additions included kennels, greenhouses, a walled and secret garden, a tea house, a gatehouse, a stable, and a barn (RIHPC, 1979a:18).

Allen-King-Norman Farm

The Allen-King-Norman Farm consists of a two-and-a-half story Federal-era structure with large brick and central chimneys. According to the Rhode Island Historical Preservation & Heritage Commission (1979a:18), the farmhouse had a central portico entry in a 5-bay, south-facing façade, and a large wing at a right angle at the rear. There was a complex of wood-shingle and stone outbuildings at the rear, and the grounds, with stone walls, were well landscaped. The farm was opened to the public as a bird sanctuary in 1950 and named for George H. Norman and George H. Norman, Jr.

Norman Bird Sanctuary and Museum

The Norman Bird Sanctuary, maintained by the Rhode Island Audubon Society, opened to the public in 1950 and consisted of a 450-acre tract of woodland, field, marshes, and rocky hills. Portions of the Sanctuary was formed from the Smith-Gardiner-Norman Farm and Allen-King-Norman Farm. A converted barn and several small outbuildings serve as the headquarters which comprise the bird sanctuary (RIHPC, 1979a:18).

3.5.3 NRHP Criteria and the Maritime Visual Setting

The Paradise Rocks Historic District is an NRHP-eligible resource, possibly under Criterion A and C. The district contains a typical landscape within coastal New England and Middletown that was utilized for agriculture by Europeans for over 200 years. In addition, the few houses within the district are typical examples of nineteenth century residences within Middletown, Rhode Island, embodying the distinctive characteristics of the type, period, or methods of construction. The homes are also in keeping with the vernacular building tradition of coastal New England.

One of the resources within the District, the Smith-Gardiner-Norman Farm (also known as Paradise Farm), was listed in the NRHP under Criterion A and C for its significance in the history of Middletown's settlement and agriculture. According to the NRHP Inventory Nomination Form (Connors, 2007), the Paradise Farm is "a well-preserved example of Rhode Island's eighteenth and nineteenth century island farms, typical of its

region in its form and in its history of use and ownership until the early twentieth century." Contributing structures included a farmhouse, a two-car garage, carriage shed, barn, stone walls, agricultural fields, orchard, family garden, sheep pen, Gardiner Family Burial Plot (1786-1872), gravesite (date unknown), Hanging Rock, and quarry. The period of significance for the Farm spans from 1750 to 1949. While the early period's significance included the history surrounding the historic farmstead, the later period's significance included the pattern of development in the history of the island towns and the use of agricultural areas in island towns as country retreats for wealthy families. The Smith-Gardiner-Norman Farm may also be NRHP eligible under Criterion D, as it may yield evidence about the lifeways of coastal Native Americans as well as successive owners, tenants, and slaves (Connors, 2007).

3.6 The Sea View Villa

3.6.1 Physical Description and Existing Conditions

The Sea View Villa is a two-and-a-half story, multi-gabled chateau with a complex plan, several porches, and wood-carved details on the exterior (RIHPC, 1979a:34). The house is near the vicinity of Easton's Point on Tuckerman Avenue. The house is less than 100 meters from the shoreline and approximately 40 feet above mean sea level, overlooking the Atlantic Ocean. Sea View Villa is currently a privately owned apartment complex (Sea View Villa, n.d.).

3.6.2 Historic Context

The Sea View Villa was built by General Zachariah Cantey Deas in the 1880s. The original lot, much like those in other sections of Middletown, were laid out by a syndicate of Boston businessmen. In 1945, the property was purchased by Tony and Mary Spiratos, whose family continues to own the property. During this time, Sea View Villa was host to President Eisenhower's Cabinet and the White House's staff. During the latter half of the twentieth century and to the present, the Spiratos family made major renovations to the estate, updating the various rooms (such as the old servant's quarters) into apartments for rent (RIHPC, 1979a:6; Sea View Villa, n.d.).

3.6.3 NRHP Criteria and the Maritime Visual Setting

The Sea View Villa is an NRHP-eligible resource and appears to meet Criterion C. The house is a typical example of a late-nineteenth century residence within Middletown, Rhode Island, embodying the distinctive characteristics of the type, period, or methods of construction. In addition, the house is in keeping with the vernacular building tradition of coastal New England. The property's natural landscape and maritime visual residence.

3.7 The St. George's School: Church of St. George, Little Chapel, and Memorial Schoolhouse

3.7.1 Physical Description and Existing Conditions

The St. George's School (NPS Ref. #04001235) collectively refers to three buildings (attached to one another) together occupying less than one acre on a 125-acre school campus: the Church of Saint George, the

Memorial Schoolhouse, and the Little Chapel. Approximately 50 other structures, as well as lawns and athletic fields, cover the rest of the campus. Approximately half of the other structures were built between the 1880s and 1930s; some of those may also warrant NRHP nomination. The Memorial Schoolhouse, Church of Saint George, and the Little Chapel occupy the center of the campus between landscaped courtyards. The entire campus has been likened to an English manor estate, with buildings consistently between one and three stories, with gabled roofs, red brick exteriors, and Georgian Revival and Tudor Revival architecture (Cavanaugh, 2004: Section 7, pg. 1-2).

While the original campus was laid out in quadrangles, preserving ocean views to the east and south was later considered. The hilltop location of the school property offers "magnificent views of Second Beach, Sachuest Bay, Rhode Island Sound" and other landmarks (Cavanaugh, 2004: Section 7, pg. 1). Currently, the school serves as a private, Episcopal, coeducational boarding school (St. George's School, n.d.).

The Little Chapel

The Little Chapel is a brick one-room building with one-story, and a gabled roof of green slate on a poured concrete foundation. Constructed between 1909 and 1911, the Tudor Revival style building was relocated in 1924 less than 100 feet away from its original site to make way for construction of the Church of Saint George. The Little Chapel is now attached to the larger Church of Saint George on the larger structure's southeast corner in the position of a Gothic church's "Lady Chapel." The Little Chapel was modified between 1924 and 1928 to match the style of the Church of Saint George. The Little Chapel now exhibits a parapeted gable roof, Gothic pointed-arch doorway, diamond-paned leaded casement windows, and exposed roof beams and trusses. At the time of its inclusion on the NRHP, the slate roof and gutters of the Little Chapel were in disrepair (Cavanaugh, 2004: Section 7, pg. 3-5).

The Memorial Schoolhouse

The Memorial Schoolhouse is a two and one half-story red brick building built in the Tudor Revival style. It was constructed between 1921 and 1923 as a memorial to the alumni of the school who died in World War I. It has cast stone trim, a multi-gabled slate roof, and a wood-framed cupola. The main entranceway is semi-hexagonal with an arched doorway and Renaissance detailing. A miniature turret is adjacent to the north slype door. The schoolhouse is oriented on and east-west axis, and its primary façade faces the south. The schoolhouse is in very good condition, and retains full integrity of setting, feeling, and association (Cavanaugh, 2004: Section 7, pg. 6-11).

The Church of Saint George

The Church of Saint George was constructed between 1924 and 1927 by one of the major church architects of his generation, Ralph Adams Cram of the Boston firm of Cram & Ferguson. According to the St. George's School NRHP registration form, "the Gothic Revival Style Church of St. George (commonly referred to as "the Chapel") is not only the most visually prominent, but also the most historically and architecturally significant building on campus" (Cavanaugh, 2004; Section 7, pg. 12).

While notably smaller than medieval period counterparts, the Church of Saint George presents the Gothic feelings of height and weightlessness. Character defining features include: the stone materials; the

buttresses; the rib-vaulted roof; the pointed-arch window and door openings; the stained-glass windows outlined with stone tracery; the cloister with its fan-vaulting, pointed arches and stone tracery; the great tower; and the copious ornamentation inside and out (Cavanaugh, 2004: Section 7, pg. 12).

The Church of Saint George was constructed primarily of gray limestone, with areas of marble, granite and limestone interior. The roof is lead coated copper. The church is arranged in a T-shape, with a long nave running east-west and a short transept at the west end. The nave and the transept have end-gabled roofs. The church has four exterior towers, with the largest square tower rising 147 feet. A long, narrow, two-story stone structure called a slype connects the church with the Memorial Schoolhouse (Cavanaugh, 2004: Section 7, pg. 12).

3.7.2 Historic Context

The St. George's School was founded as an Episcopal school for boys in 1896 by Mr. John Byron Diman, a deacon in the Episcopal Church and alumnus of Brown, Cambridge, and Harvard. At the time, Rhode Island did not have a state-supported public high-school system, so the St. Georges School filled the need for private education. Originally the school rented a location in Newport, before relocating in 1901 to the present-day location due to Diman's love of the "rural, naturalistic qualities and extensive ocean views" (Cavanaugh, 2004; Section 8, pg. 45). By 1906 the school had 88 students, and construction of new campus buildings included classrooms, dormitories, residences, a dining hall and other supporting facilities. The Little Chapel was constructed between 1909 and 1911 to serve as a place for morning communion services, confirmation classes, Bible study, and community meetings. The Memorial Schoolhouse, constructed between 1921 and 1923, was built to memorialize those school alumni who had died in World War I. The Church of Saint George, constructed between 1924 and 1928, was built to provide religious services to the entire Episcopal community of St. George's School (Cavanaugh, 2004: RIHPC, 1979a:31).

3.7.3 NRHP Criteria and the Maritime Visual Setting

The St. Georges School is significant under NRHP Criterion A for reflecting the rise of faith-based private education in America, particularly of Episcopal boarding schools in New England, at the end of the 19th century and the beginning of the 20th century. Collectively and individually, the three buildings which comprise the NRHP listing are also significant Under Criterion C. The Little Chapel and the Memorial Schoolhouse both represent the Tudor Revival style. The Church of St. George is a masterpiece of English Gothic Revival ecclesiastical architecture, representing the work of one of the major church architects of his generation, Ralph Adams Cram of the Boston firm of Cram & Ferguson (Cavanuagh, 2004: Section 8, pg. 33).

The extensive and magnificent ocean views contribute to the St. George's School's integrity of setting, feeling, and association as they were a primary reason that founder John Diman chose the location. Layout and orientation of the campus buildings in relation to the east and south facing views was also considered during construction. The St. George's School was listed in the NRHP in 2004.

3.8 The Indian Avenue Historic District

3.8.1 Physical Description and Existing Conditions

The Indian Avenue Historic District, previously known as the Indian Avenue Historic District, is located in the eastern portion of Middletown, between Green End Avenue on the north and Third Beach Road on the south. The district encompasses a one-quarter mile section of Indian Avenue and contains approximately a dozen noteworthy Late Victorian and early twentieth century structures. An 1884 stone chapel, St. Columba's Chapel, is located nearby (RIHPC, 1979a:13). Most of the houses are located to the east of Indian Avenue, overlooking the Atlantic Ocean, with many consisting of one-and-a-half to two-story houses set back from the road and obscured by trees. The original homes were typically constructed from stone or vertical board-and-batten walls. Additional outbuildings, such as carriage houses, were and continue to be a common feature of these large estates (RIHPC, 1979a:14-15).

The land gently rises from sea level at the river's shore to just over 50 feet at the district's northwestern corner. Just south of Vancluse Avenue, which forms part of the district's western edge, a small creek crosses Indian Avenue and meanders into the Sakonnet River east of the intersection of Vaucluse and Indian Avenues. The district's principal properties comprise a large, early twentieth century multiple resource estate with landscaped grounds, subdivided in the late twentieth century. It is comprised of four contributing buildings, five non-contributing buildings, and two discrete contributing sites. The contributing buildings include 75 Vancluse Avenue, 501 Indian Avenue, 502 Indian Avenue, 515 Indian Avenue, 521 Indian Avenue. The properties were largely divided from the Edward C. Knight, Jr. estate (Stonybrook) designed by Horace Trumbauer in 1928. In addition to the main house on a waterfront lot, the Knight estate extended across Indian Avenue, with formal gardens and outbuildings in the same style as Stonybrook (i.e., Late Gothic Revival) (Woodward, 2009).

3.8.2 Historic Context

From the time of European settlement in the eighteenth century until the mid-nineteenth century, the land within the Indian Avenue Historic District was primarily utilized for agriculture. A farmhouse stood at each end of the present-day district. In addition, a ferry landing near the end of Green End Avenue, originally known as Taggart's Ferry, carried farm produce between Little Compton and Newport until about 1870 (RIHPC, 1979a:13).

After the Civil War, the nearby town of Newport saw a marked increase in the purchase and construction of summer estates. Inspired by this growth, Eugene Sturtevant began his effort to make Middletown the "court end of the island" in 1871 (RIHPC, 1979a:6). Sturtevant and a partner purchased two and a half miles of farmland along the Sakonnet shore and money was invested into a 5-mile fenced road (Indian Avenue). The plat featured the road flanked by one hundred rectilinear lots, with an average frontage of 200 feet and depths of 400 feet or more (Woodward, 2009). The Indian Avenue neighborhood developed on a small scale, with the first purchases being made by Philadelphia and Hartford families. The advent of the automobile attracted more development within the district, as it was easier to drive the 3.5 miles from Newport (RIHPC, 1979a:13).

For the first three decades of the twentieth century, many new summer estates were constructed, though much of the original plat remained in agricultural use (Woodward, 2009). A pattern of summer estates with ample landscaped grounds interspersed with occasional farm fields defined the district in the decades after World War II. In the last quarter of the twentieth century another round of development added a new generation of large houses, filling in formerly undeveloped land or subdivided portions of the earlier estates (Woodward, 2009; RIHPC, 1979a:13).

3.8.3 NRHP Criteria and the Maritime Visual Setting

The Indian Avenue Historic District was added to the NRHP in 2009 under Criterion C. According to the NRHP Nomination Form (Woodward, 2009), the district is a "…notable example of the high-style residential development associated with the growth of an extensive summer-resort society that was centered in Newport, Rhode Island and spread into the neighboring towns of Middletown, Portsmouth, and Jamestown in the late nineteenth and early-twentieth centuries. The district… is the community's largest, most fully developed, and most intact representative of this phenomenon." In addition, it represents the work of a prominent architect of the time, Horace Trumbauer, and exemplified a style of life common to other sections of Middletown (RIHPC, 1979a:13). The district as a whole derives historic significance from its seaside location and maritime visual setting, as the location specifically relied on its coastal setting and maritime view in order to attract homeowners. According to the Rhode Island Historical Preservation & Heritage Commission (1979a:13), the maritime visual setting was an important aspect of the estates and District, as the "well sited lots afford[ed] good views of the river and ocean."

3.9 The Whetstone

3.9.1 Physical Description and Existing Conditions

The Whetstone is a two-story Early Victorian structure with two brick interior chimneys, round-head dormers, a front porch, and several additions. It is sited on the bluff overlooking Whetstone Point and Long Rock and Sachuest Bay at 455 Tuckerman Avenue (RIHPC, 1979a:34). The house is located approximately 100 meters from the shoreline and at approximately 40 feet above mean sea level, overlooking the Atlantic Ocean. The Whetstone is currently a privately owned home.

3.9.2 Historic Context

The Whetstone was built in 1860 by Lewis P. W. Balch, a doctor from New York, prior to the growth of Newport's summer colony after the Civil War (RIHPC, 1979a:6, 34). Prior to this, the Whetstone home was primarily located within a rural and agricultural environment. After the Civil War, increased construction in summer houses occurred on the south and east side of Tuckerman Avenue, as the lots offered views of the Atlantic Ocean. During the twentieth century, additional houses and roads were constructed to the north of the Whetstone. Currently, the Whetstone house is located within a moderately dense residential area.

3.9.3 NRHP Criteria and the Maritime Visual Setting

The Whetstone is an NRHP-eligible resource and appears to meet Criterion C. The house is a typical example of a mid-nineteenth century residence within Middletown, Rhode Island, embodying the distinctive characteristics of the type, period, or methods of construction. In addition, the house is in keeping with the vernacular building tradition of coastal New England. The property's natural landscape and maritime visual setting are a key component of its historic significance as a mid-nineteenth century vernacular seaside residence.

3.10 The Land Trust Cottages

3.10.1 Physical Description and Existing Conditions

The Land Trust Cottages are a group of five Shingle-style houses located off of Purgatory Road, at the east end of Easton Beach. The cottages are comprised primarily of two-and-a-half-story, gambrel-roof structures closely grouped together located between a tall hedgerow along Purgatory Road and Easton Bay.

3.10.2 Historic Context

The Land Trust Cottages were laid out for development in 1885-1887 under the guidance of Frederick Law Olmsted. The cottages were constructed as part of a wave of post-Civil War development in Middletown and Newport, primarily by businessmen and investors from Boston. In 1887-1888 E. B. Hall, a Boston builder, erected the cottages on a relatively small lot, positioned to take advantage of views of Easton Bay. The cottages have remained private residences since their construction, with relatively minimal alteration to materials or form (Nebiker and Kennedy, 1990; Jordy, 2012; Dunn, 2014).

3.10.3 NRHP Criteria and the Maritime Visual Setting

The Land Trust Cottages were included in the *Historic and Architectural Resources of Middletown RI* multi-property documentation form (Nebiker and Kennedy, 1990), but have not been formally listed on the NRHP. The RIHPHC have classified the property as potentially eligible for listing on the NRHP. The Land Trust Cottages appear to meet NRHP eligibility Criterion C as an intact, representative example of seaside Shingle-style residences, as well as for the associations with Frederick Law Olmsted. The coastal location and maritime visual setting of the cottages are a key component of their historic significance as late-nineteenth century summer cottages.

3.11 The Bluff/John Bancroft Estate

3.11.1 Physical Description and Existing Conditions

The Bluff/John Bancroft Estate is located at 575 Tuckerman Avenue. The property extends from the roadway to the bluffs overlooking Sachuest Bay. The building is an irregular-shaped, five-story Shingle-style residence originally constructed in 1895, converted into apartments in 1950, and renovated into ten luxury condominiums in 2006.

3.11.2 Historic Context

The Bluff/John Bancroft Estate was designed by architect William Ralph Emerson (regarded as one of the leading architects of the Shingle Style) for John Chandler Bancroft, a businessman and artist and collector of Japanese art from Boston, with a Japanese garden designed by Frederick Law Olmsted. The house was constructed on a bluff overlooking Sachuest Bay to take advantage of the sweeping views of the bay. The house was constructed as part of a wave of post-Civil War development in Middletown and Newport, primarily by businessmen and investors from Boston. Although Bancroft passed away in 1901, the building is still associated with his name due to his connections and contributions to the art world of Rhode Island in the late nineteenth century (RIHPC, 1979; Sieger, 2000; Historic New England, 2016; Dunn, 2017; WUC, 2020).

3.11.3 NRHP Criteria and the Maritime Visual Setting

The Bluff/John Bancroft Estate was included in the *Historic and Architectural Resources of Middletown RI* multi-property documentation form (Nebiker and Kennedy, 1990), but has not been formally listed on the NRHP. The RIHPHC have classified the property as potentially eligible for listing on the NRHP. The Bluff/John Bancroft Estate appears to meet NRHP eligibility National Register Criterion A for its associations with John Chandler Bancroft, and Criterion C as an intact, representative example of the work of William Ralph Emerson, a prominent New England architect renowned for his Shingle-style designs, as well as the associations with Frederick Law Olmsted, who designed the Japanese garden on the property that is partially intact. The property's coastal location and uninterrupted maritime visual setting are a key component of its historic significance as a mid-nineteenth century seaside estate.

4.0 MITIGATION MEASURES

Mitigation measures at the historic properties are detailed in this section. These mitigation measures were developed in consultation with the Participating Parties by individuals who meet the Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61) and are appropriate to fully address the nature, scope, size, and magnitude of adverse effects including cumulative effects caused by the Project, NRHP-qualifying characteristics of each historic property that would be affected. These mitigation measures also include actions to respond to some reasonably foreseeable hazards unrelated to the Project that pose risks to the long-term preservation of affected historic properties, such as climate change.

4.1 Support Ongoing Maintenance and Aesthetic Improvements to the Third Beach Road and Hanging Rocks Road through Stone Wall Preservation and Observation Trails within the Paradise Rocks Historic District

4.1.1 Purpose and Intended Outcome

Per the request of the Norman Bird Sanctuary, Revolution Wind will provide funding to support the ongoing implementation of resiliency measures, ongoing maintenance, and/or aesthetic improvements to the historic stone walls along Third Beach Road and Hanging Rocks Road to ensure the long-term preservation of these historic and cultural resources. In addition, the funding may be used toward the ongoing improvement to the Norman Bird Sanctuary's Coastal Trail to provide support for viewing platforms and other trail improvements to enjoy and observe these historic and cultural resource.

4.1.2 Scope of Work

This scope of work will consist of the following:

- Review existing Town of Middletown Charter and Code of Ordinances;
- Review existing planning documents, guidance, and regulations;
- Review, photograph and document existing conditions;
- Solicit public engagement to discuss preservation priorities;
- Develop a draft plan, including drawings if necessary, to be distributed to the Participating Parties for review and comment;
- Develop a final plan, including drawings if necessary to be distributed to the Participating Parties;
- Complete project;
- Develop a draft report of work completed, including as-built documentation and photographs to be distributed to the Participating Parties for review and comment; and
- Develop the final report to be distributed the Participating Parties.

4.1.3 Methodology

Revolution Wind will release a request for proposals (RFP) for consultant services and select a consultant to perform the scope of work listed in Section 4.1.2.

4.1.4 Standards

The mitigation measure will comply with following standards:

- Town of Middletown Charter and Code of Ordinances; and
- The Secretary of the Interior's *Standards for the Treatment of Historic Properties* (36 CFR 68).

4.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP;
- Photographs and documentation of existing conditions;
- Draft plan;
- Final plan;
- Draft report of work completed, including as-built documentation; and
- Final report.

4.1.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

4.2 Updated Town-Wide Historic Resources Survey

4.2.1 Purpose and Intended Outcome

Per the request of RIHPHC, Revolution Wind will provide funding to hire a Secretary of the Interior (SOI) qualified professional to complete an update of the existing Historic and Architectural Resources of Middletown, Rhode Island: A Preliminary Report, which was completed in 1979. The updated town-wide historic resources survey will identify and document historic and potentially historic properties located within the Town of Middletown.

4.2.2 Scope of Work

The scope of work will consist of the following:

- Review the existing Historic and Architectural Resources of Middletown, Rhode Island: A Preliminary Report;
- Review existing historic property documentation available at local repositories and the RIHPHC files;
- Develop a methodology for completion of the survey to be distributed to the Participating Parties for review and comment;
- Complete survey per the approved methodology;

- Develop a draft survey report to be distributed to the Participating Parties for review and comment; and
- Develop final report, addressing the comments received, to be distributed to the Participating Parties.

4.2.3 Methodology

Revolution Wind will release a request for proposals (RFP) for consultant services for the scope of work and select a consultant to perform the scope of work listed in Section 4.1.2. The consultant should be a SOI qualified professional and have demonstrated knowledge and experience in completing town-wide architectural surveys.

4.2.4 Standards

The exhibit will conform to the following standards:

- The Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61), as applicable; and
- RIHPHC guidance.

4.2.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- Request for Proposals (RFP);
- Proposals by qualified consultants in response to the RFP;
- Preliminary draft report; and
- Final report.

4.2.6 Funds and Accounting

Funding amounts were determined to be sufficient by BOEM in consultation with the consulting parties and are identified in an attachment to the MOA.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with the Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

5.2.2 Revolution Wind, LLC

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.3 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

and consultation meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.

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ATTACHMENT 13 – HISTORIC PROPERTIES TREATMENT PLAN FOR THE REVOLUTION WIND FARM, NINE HISTORIC PROPERTIES SUBJECT TO ADVERSE EFFECTS IN THE TOWN OF AQUINNAH, DUKES COUNTY, MASSACHUSETTS

Historic Property Treatment Plan

for the

Revolution Wind Farm

Nine Historic Properties

Town of Aquinnah, Dukes County, Massachusetts

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind, LLC
https://revolutionwind.com/

Prepared by:

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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	71 Moshup Trail The Leonard Vanderhoop House The Edwin DeVries Vanderhoop Homestead The Tom Cooper House The Theodore Haskins House 3 Windy Hill Drive The Gay Head-Aquinnah Town Center Historic District The Gay Head-Aquinnah Shops The Gay Head-Aquinnah Coast Guard Station Barracks
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

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
DEIS	Draft Environmental Impact Statement
EDR	Environmental Design and Research, D.P.C.
FEIS	Final Environmental Impact Statement
FR	Federal Regulation
HPTP	Historic Property Treatment Plan
MHC	Massachusetts Historical Commission
MOA	Memorandum of Agreement
NHL	National Historic Landmark
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
PAPE	Preliminary Area of Potential Effects
RFP	Request for Proposal
RIHPHC	Rhode Island Historical Preservation & Heritage Commission
ROD	Record of Decision
RWF	Revolution Wind Farm
TCP	Traditional Cultural Property
WTG	Wind turbine generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for 71 Moshup Trail, which is a Massachusetts Historical Commission (MHC) Inventory Site; the Leonard Vanderhoop House, which is a MHC Inventory Site; the Edwin DeVries Vanderhoop Homestead, which is listed on the National Register of Historic Places (NRHP); the Tom Cooper House, which is an MHC Inventory Site; the Theodore Haskins House, which is an MHC Inventory Site; 3 Windy Hill Drive, which is an MHC Inventory Site; the Gay Head – Aquinnah Town Center Historic District, which is listed on the NRHP; the Gay Head – Aquinnah Shops, which is an MHC Inventory Site; and the Gay Head-Aquinnah Coast Guard Station Barracks, which is an MHC Inventory Site (hereinafter, the historic properties) provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects in the *Historic Resources Visual Effects Analysis – Revolution Wind Farm* (HRVEA; EDR, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind LLC (Revolution Wind) has provided this HPTP in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act of 1966 (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve adverse effects on historic properties, the implementation steps, and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.
This draft HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic properties discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic properties included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic properties are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the mitigation actions. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic properties, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

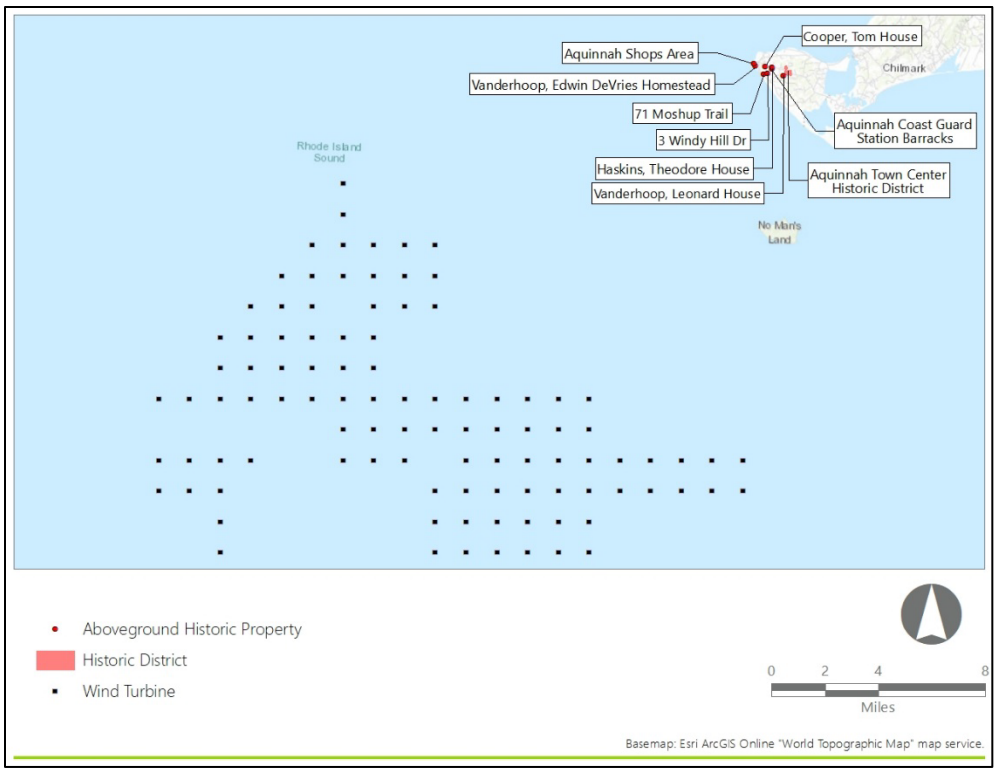
- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Project Location



2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of a ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks (NHLs) for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB). This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2 – Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historic commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.2.2 Preservation Easements and Restrictions

Preservation easements and restrictions protect significant historic, archaeological, or cultural resources. The State of Massachusetts preservation restrictions are outlined in Massachusetts General Law Chapter 184, Sections 31-33. Any mitigation work associated with the historic properties will comply with the conditions of all extant historic preservation easements. Additional information regarding compliance with extant preservation restrictions appears in Section 5.0, Implementation. The MHC holds a preservation easement on the Aquinnah Public Library/Gay Head School (a contributing building to the Gay Head – Aquinnah Town Center Historic District) per Massachusetts General Law Chapter 184, Sections 31-33.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021 pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic property and invited the following parties:

- The Wampanoag Tribe of Gay-Head (Aquinnah)
- The Martha's Vineyard Commission
- The Gay Head Lighthouse Advisory Committee
- The Town of Aquinnah
- The Massachusetts Historical Commission.[1]

[1] MHC was invited to attend stakeholder outreach meetings regarding historic properties in Massachusetts; however, MHC has not participated in outreach meetings for Revolution Wind.

3.0 EXISTING CONDITIONS, HISTORIC SIGNIFICANCE, AND MARITIME SETTING

3.1 Historic Properties

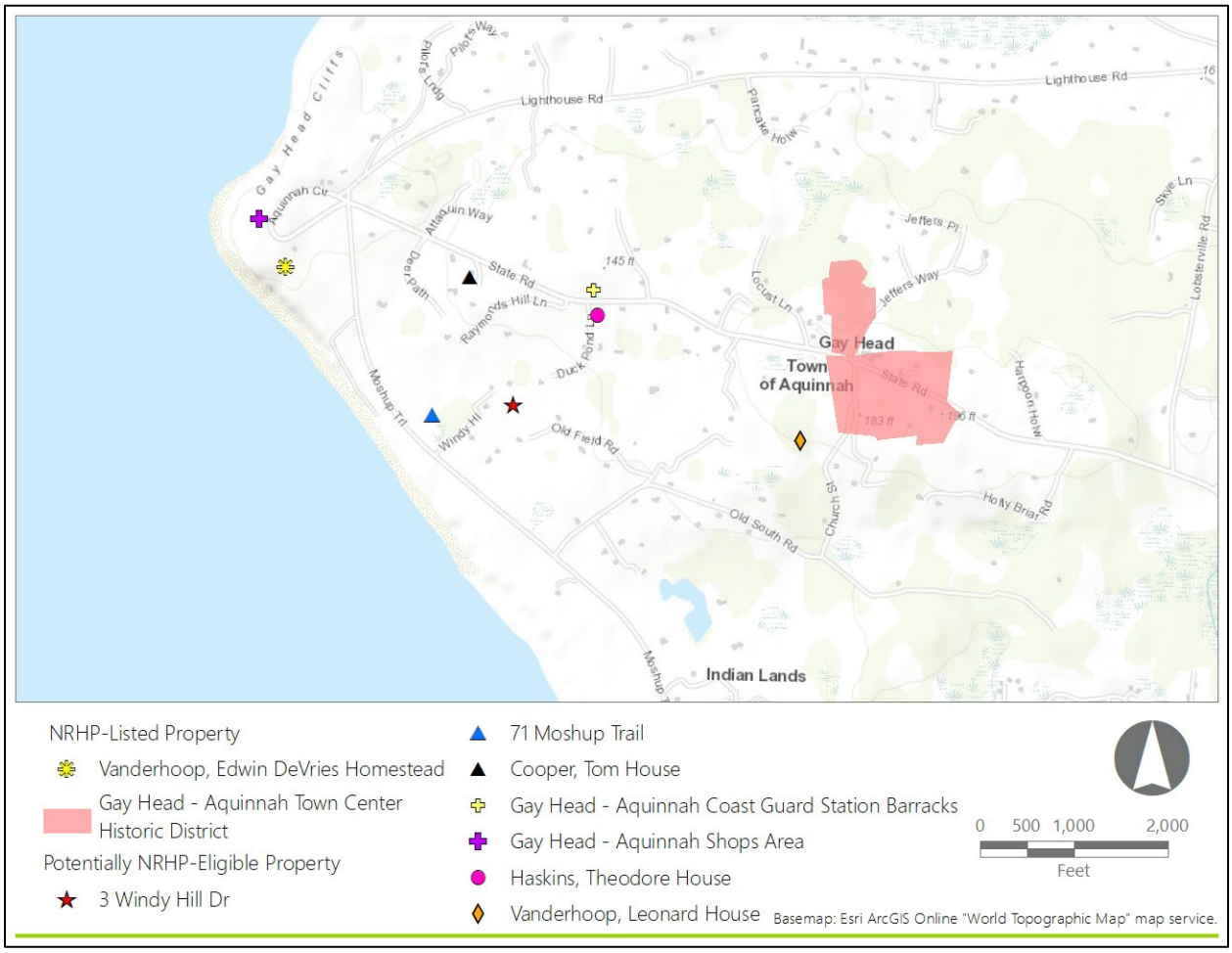
This HPTP addresses eight historic properties, as identified in Table 3.1-1 and located on Figure 3.1-1.

Table 3.1-1. Historic Properties included in the HPTP

Name	Property Designation	Municipality	State	Site No. (Agency)	Ownership	Historic Property Type
71 Moshup Trail	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.31 (MHC)	Private	Historic Buildings and Structures
Leonard Vanderhoop House	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.4 (MHC)	Private	Historic Buildings and Structures
Edwin DeVries Vanderhoop Homestead	NRHP-Listed	Town of Aquinnah	MA	GAY.40 (MHC); 06000784 (NPS)	Municipal	Historic Buildings and Structures
Tom Cooper House	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.53 (MHC)	Private	Historic Buildings and Structures
Theodore Haskins House	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.51 (MHC)	Private	Historic Buildings and Structures
3 Windy Hill Drive	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.55 (MHC)	Private	Historic Buildings and Structures
Gay Head – Aquinnah Town Center Historic District	NRHP-Listed	Town of Aquinnah	MA	GAY.A (MHC); 99000187 (NPS)	Municipal; Private	Historic Buildings and Structures
Gay Head – Aquinnah Shops	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.B (MHC)	Private; Tribal Nation	Historic Buildings and Structures

Gay Head-Aquinnah Coast Guard Station Barracks	MHC Historic Inventory Site	Town of Aquinnah	MA	GAY.52	Private	Historic Buildings and Structures

Figure 3.1-1. Historic Property Location



In Sections 3.3. through 3.10, each property is described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.2 Maritime Setting

For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this document.

The historic properties included in this HPTP are all considered within the historic property type defined in the HRVEA as "Historic Buildings and Structures" which includes buildings and associated properties historically used as residences. Location and orientation of such properties is critical to understanding the nature of any associated maritime settings. Many historic houses were oriented to local roadways, with the front and rear elevations parallel to the nearby road's alignment. Local roadways along the region's shorelines often parallel the water's edge and historic homes frequently shift in orientation along such coastal roads. This variation in orientation may strongly influence the associated views of marine waters that may form important elements of a property's historic setting. Historic commercial fishing activities were focused along the eastern shores of Menemsha Pond, which afforded relatively sheltered harbor and access to Vineyard Sound to the north.

Topography and landcover also play critical roles in defining both the historic settings and existing visual settings for each historic property. Of these two factors, the latter has been generally subject to greater change since the period of original construction and/or period of significance for many historic properties located in the Town of Aquinnah. Mid- to late-twentieth century reforestation has transformed many of the formerly open, agrarian lands of Martha's Vineyard and constrained local viewsheds from numerous buildings once set on or near agricultural or pasture lands (e.g. Seccombe, 2010). The extensive agricultural heritage in the area is now largely expressed by the stone walls constructed along former pastures, fields, and roads and the surviving farmhouses and barns. Post-1950 residential construction has affected the settings for a smaller number of historic properties but may have diminished the integrity of historic settings for specific properties. The extensive forest cover affords privacy in many residential areas, but limits direct ocean views.

The topography of Aquinnah is strongly influenced by the last glaciation. The elevated Gay Head (Aquinnah) Cliffs along the western shoreline and the highlands in the central section of the town were formed by deformation and upthrusting of ancient sediments as the ice advanced over the area approximately 24,000 years ago (Oldale and O'Hara, 1984). Where vegetation is absent or sparse, views towards the Project may be available from these higher elevations. The bordering areas along the Menemsha Pond to the east and along the southwestern shores have relatively low relief. Direct views of the ocean horizon are screened from Menemsha Pond by the Gay Head (Aquinnah) Cliffs. In the shoreline areas along the southwestern shores, even the commonly low tree and shrub canopies of the island may screen ground-level views of ocean due to the limited relief.

3.3 71 Moshup Trail

3.3.1 Physical Description and Existing Conditions

71 Moshup Trail is a one-and-one-half-story vernacular residence with a gable roof and wood shingle siding. Notable features include the semi-hexagonal tower and full-width porch on the primary (northeast elevation). Windows are generally two-over-two wood sash, and the primary entry door is offset on the northeast elevation. A single-story shed-roofed addition and a gabled dormer window are located on the

southwest elevation. The building has an asphalt shingle roof and rests on a stone foundation. A gable-roofed garage is also located on the roughly 9-acre lot.

3.3.2 Historic Context

Throughout the eighteenth century, most residential settlement was concentrated in the western and southern parts of the present-day Town of Aquinnah, which constituted the reservation lands of the Wampanoag Tribe of Gay Head (Aquinnah). Individual residences were linked by a network of paths, and by the mid-nineteenth century, several east-west roads connected the residential areas to the Gay Head Light and Clay Cliffs of Aquinnah to the west and the present-day Town of Chilmark to the east (Harrington, 1998a). In the 1860s, the "District of Gay Head" was established by the Massachusetts General Court. The district was incorporated as the Town of Gay Head in 1870, despite the objections of the Wampanoag residents, who viewed the town's creation as the alienation of their lands in violation of the Federal Non-Intercourse Act of 1790 (WTGHA, 2022). At the time, tribal members accounted for all of the town's 227 residents, and the survey and privatization of their land allowed non-tribal owners to acquire property in the town. By 1895, at least 18 non-tribal individuals owned land in the Town of Gay Head, and that number would increase in the following decades. The year-round (primarily Wampanoag) population declined during the twentieth century as communal economic systems dependent on fishing and agriculture waned. Meanwhile, visitation from off-island residents increased dramatically, and many new residences were constructed for use as summer rentals or vacation homes (Harrington, 1998a).

The residence at 71 Moshup Trail was built in approximately 1920. Its primary elevation faces northeast, towards a now-inaccessible extension of Old South Road which provided access to a small number of residences in the area during the early twentieth century. The current roadway, Moshup Trail, was built in 1956, extending east from Aquinnah Circle and providing access to home sites and points of interest along the town's south shore (Harrington, 1998b).

3.3.3 NRHP Criteria and the Maritime Visual Setting

71 Moshup Trail appears to meet National Register Criterion C as a typical example of an early twentieth-century residence in keeping with the characteristic scale, form, and materials of the vernacular building tradition of coastal New England. The property's natural landscape and maritime visual setting are a key component of its historic significance as an early-twentieth-century vernacular seaside residence.

3.4 The Leonard Vanderhoop House

3.4.1 Physical Description and Existing Conditions

The Leonard Vanderhoop House, located at 5 Church Street, is a one-and-one-half-story Greek Revival-derived vernacular residence with multiple additions sited on approximately 5.6 acres. The primary volume consists of a gable-and-ell modified (after 1998) with the addition of wall dormers. A small single-story addition to the west has a flat roof supporting an open deck. The exterior is clad in wood shingle and the roof is of asphalt shingle. The primary elevation faces northeast to an unpaved extension of Church Street.

3.4.2 Historic Context

The Leonard Vanderhoop House was built in approximately 1850 and was one of several residences, along with a school, church, and parsonage, which formed the nucleus of the Gay Head community along present-day Old South Road during the mid-nineteenth century. Leonard L. Vanderhoop (1855-1934), the earliest identified resident of the house, was a restaurant owner and Town Treasurer. The Vanderhoop family, descended from Leonard's parents William A. Vanderhoop and Beulah Salsbury, are a prominent Aquinnah family whose members own many properties and have held key positions in the town government as well as in the Wampanoag Tribe of Gay Head (Aquinnah) (Harrington, 1998c).

In 1870, the same year that the Town of Gay Head was incorporated, the improvement of present-day State Road by the State of Massachusetts dramatically altered the development patterns within the town. The new road was laid out north of Old South Road along the existing path that connected Chilmark to the east to the Gay Head Lighthouse. Nearly all of the existing buildings were subsequently moved from the older community around Old South Road to the new center of activity around the intersection of State Road and Church Street. By 1926 only a single unoccupied house remained at the old settlement (Harrington, 1998a). The Leonard Vanderhoop House was relocated during this period to its current site at 5 Church Street. It remains in the Vanderhoop family today.

3.4.3 NRHP Criteria and the Maritime Visual Setting

The Leonard Vanderhoop House has been significantly altered with the replacement of windows and doors and the introduction of wall dormers. However, it retains its overall massing and its historic setting. The house's relocation after 1870 in response to changing settlement patterns contributes to its historic significance. The Leonard Vanderhoop House appears to meet National Register Criterion A for its association with the mid-nineteenth century settlement along Old South Road. The Vanderhoop family is one of the most well-known families in the history of the Town of Aquinnah. The house is a Shingle-style building, typical of the buildings located on Martha's Vineyard, and has views to the water afforded by its relatively high elevation on the moraine. The remaining ocean views are associated with a once more expansive ocean viewshed that has been partially screened by reforestation.

3.5 The Tom Cooper House

3.5.1 Physical Description and Existing Conditions

The Tom Cooper House, located at 1 Sunset Lane, is a two-story residence consisting of a primary gable-roofed volume with multiple additions sited on approximately 0.5-acre. The exterior is clad in wood shingle and the roofs are clad in asphalt shingle. The residence appears to have been heavily remodeled in about 2005. All of the windows and doors appear to be modern replacements. Other alterations include the addition of a hipped-roof volume atop a walk-out basement, the enlargement of the original volume with wall dormers, and the addition of a visually prominent stone chimney.

3.5.2 Historic Context

Sunset Lane is a short road extending south from State Road. It was developed in the early twentieth century, following the improvement of State Road. The Tom Cooper House was built during the last quarter of the nineteenth century. Tom Cooper was the first known occupant of the house, during the early twentieth century. The Cooper family operated a restaurant out of the residence in the 1920s, later converted to an ice cream shop in the 1960s (Harrington, 1998d). The building was substantially remodeled in approximately 2005 (Town of Aquinnah, 2022).

3.5.3 NRHP Criteria and the Maritime Visual Setting

The Tom Cooper House appears to meet National Register Criteria A and/or C for its architecture and its role as a restaurant contributing to the development of the tourism industry in Gay Head. The natural landscape and maritime visual setting appear to be key components that contribute to the historic significance of the Tom Cooper House.

3.6 The Theodore Haskins House

3.6.1 Physical Description and Existing Conditions

The Theodore Haskins House, also known as the C. Adrian Vanderhoop House, located at 72 State Road/1150 State Road, is a one-and-one-half-story Colonial Revival-derived vernacular residence consisting of a gable-roofed main volume with multiple dormers and additions sited on approximately 1.0 acre. The exterior has wood shingle siding and an asphalt shingle roof, atop a concrete masonry unit foundation. A substantial brick chimney is located on the primary elevation. Windows are generally wood sash and appear original.

3.6.2 Historic Context

The Theodore Haskins House was built in the first quarter of the twentieth century for Theodore E. Haskins, who subsequently sold the property to C. Adrian Vanderhoop (1880-1956), a member of the prominent Vanderhoop family of Gay Head (see Section 3.3.2). In 1957, the property was acquired by the Gentry family, who still own it today (Harrington, 1998e; Town of Aquinnah, 2022).

3.6.3 NRHP Criteria and the Maritime Visual Setting

The Theodore Haskins House appears to meet National Register Criterion C as an intact and representative example of an early-twentieth-century residence in keeping with the characteristic scale, form, and materials of the vernacular building tradition of coastal New England with views to the ocean. The property is sited along the southwestern flank of an elevated glacial moraine with slopes oriented towards the Project. The remaining ocean views from the property are surviving elements of a once more expansive ocean viewshed that has been diminished by post-1950 reforestation.

3.7 3 Windy Hill Drive

3.7.1 Physical Description and Existing Conditions

The house at 3 Windy Hill Drive (current address, 5 Windy Hill Drive) is a two-story Colonial Revival-derived vernacular residence with hipped roofs, wood shingle siding, and a raised basement, sited on approximately 0.5 acre. The residence was significantly remodeled in the late-twentieth- or early-twenty-first century, with little or no historic exterior materials remaining.

3.7.2 Historic Context

The house at 3 Windy Hill Drive was built in the first quarter of the twentieth century. It was originally accessed via a network of trails and roads which extended south from Old South Road. Windy Hill Drive is now accessible from Moshup Trail, which was begun in 1956 to provide access to residential lots and points of interest on the town's south shore (Harrington, 1998f; Town of Aquinnah, 2022).

3.7.3 NRHP Criteria and the Maritime Visual Setting

The address 3 Windy Hill Drive appears to meet National Register Criterion C as an intact and representative example of a residence in keeping with the characteristic scale, form, and materials of the vernacular building tradition of coastal New England, and in particular Martha's Vineyard with views to the ocean. The natural landscape and maritime visual setting appear to be key components that contribute to the historic significance of 3 Windy Hill Drive.

3.8 The Edwin DeVries Vanderhoop Homestead

3.8.1 Physical Description and Existing Conditions

The Edwin DeVries Vanderhoop Homestead, located at 35 Aquinnah Circle, is a two-story wood-frame vernacular residence with complex massing consisting of multiple intersecting gable roofed volumes along with a single-story rear addition. The building has wood shingle siding, wood shingle roofing, and a granite foundation. Windows are generally two-over-two double hung wood sash with simple wood surrounds. The primary (north) elevation is arranged symmetrically, with two single-story entry porches flanking a two-story gable-roofed one-bay-wide projection. A 12-footby-29-foot open terrace (built in 2005) along the rear elevation of the of the house and provides expansive views of the ocean waters framed by the slightly elevated sections of the cliffs to the north. The existing terrace replaced a wooden deck. The residence is sited on an approximately 3.8-acre lot which extends southwest to the Clay Cliffs of Aquinnah and consists of grass lawn, mown fields, and low vegetation.

The house consists of two main side-gable volumes which are offset and are each roughly the size of a modest Cape Cod-style residence of the nineteenth century. The presence of a full basement beneath one of the volumes and the absence of a basement beneath the other suggests that one of the volumes may have been relocated from a previous site. Historic imagery shows that a barn and several additional outbuildings were once located on the property but are no longer extant (Parcon et. al., 2006). A public walking trail leads through the property to the shoreline. The property is owned by the Town of Aquinnah

and managed as part of the 49-acre Aquinnah Headlands Preserve, while the building serves as the Aquinnah Cultural Center and Aquinnah Wampanoag Indian Museum (MVLB, 2016; Aquinnah Cultural Center, 2021).

3.8.2 Historic Context

The Edwin DeVries Vanderhoop Homestead was built or assembled from one or more existing buildings between 1890 and 1897. Edwin DeVries Vanderhoop (1848-1923) was one of nine children born in Gay Head to William Adriaan Vanderhoop, a Dutch-Surinamese settler, and Beulah Salsbury, a member of the Wampanoag Tribe of Gay Head (Aquinnah). Edwin D. Vanderhoop worked as a whaling captain and served in the Massachusetts legislature. He purchased the lot upon which his homestead stands in 1890. His widow Mary A.C. Vanderhoop (1860-1935) inherited the homestead upon his death and the property remained in the Vanderhoop family until 2003. In that year, the property was sold to the Marsh Hawk Land Trust and subsequently transferred to the Town of Aquinnah, subject to conservation and preservation restrictions (Parcon et. al., 2006). The building has been rehabilitated since that time.

3.8.3 NRHP Criteria and the Maritime Visual Setting

The Edwin DeVries Vanderhoop Homestead meets National Register Criteria A and C in the areas of Architecture, Native American Ethnic Heritage, and Social History. It derives significance from its association with the prominent Vanderhoop family of the Wampanoag Tribe of Gay Head (Aquinnah), from its association with civic and social life in the community, and as a representative example of a late-nineteenth-century residence embodying the building traditions of coastal New England. The period of significance is circa 1890/1897 to 1956 (Parcon et. al., 2006). The rear of the residence and surrounding areas of the property retain views of the Atlantic Ocean to the south. The property's location atop the Gay Head Cliffs and the views to the sea are integral to its historic setting.

3.9 Gay Head – Aquinnah Town Center Historic District

3.9.1 Physical Description and Existing Conditions

The Gay Head – Aquinnah Town Center Historic District is a collection of 23 contributing buildings, two contributing objects, and five non-contributing buildings grouped near the intersection of State Road and Church Street, at the approximate geographic center of the Town of Aquinnah. The contributing buildings consist of historic public, semi-public, residential, and agricultural buildings related to the civic, religious, and economic development of the Town of Aquinnah in the nineteenth and early twentieth centuries. The 23 contributing buildings are enumerated in Table 3.9-1.

Table 3.9-1. Contributing buildings within the Gay Head – Aquinnah Town Center Historic District

Building Name and/or Description	Address	Construction Date
The Aquinnah Town Hall/Community Center is a single-story end-gable building with a moderately pitched roof, wood shingle siding, and wood windows and doors. The primary (south) elevation consists of a projecting entry vestibule featuring a double leaf paneled door flanked by six-over-six windows. The east and west elevations include single-story ells and additions which are consistent with the form and materials of the main volume.	955 State Road	Circa 1929
The former post office and residence is a small single-story shed-roofed building with a roughly square plan and wood shingle and wood board siding. The building appears to have been unoccupied since at least the late 1990s and is overgrown with vegetation.	980 State Road	Circa 1920s
The Aquinnah Public Library/Gay Head School is a single-story Greek Revival-style end-gable building with wood shingle siding atop a granite foundation. The building has six-over-six windows and modest wood cornice returns, corner boards, and fascia boards. A wood deck and ramp added in the twenty-first century provide access to the library's main entrance on the south elevation. The primary historic entrance is on the north elevation and consists of a hipped-roof vestibule with doors on the east and west, which recall the building's use as a school from the time of its construction until 1968. The building was moved to its present location in 1878 (Harrington, 1998a).	1 Church Street	Circa 1844
The Gay Head Community Baptist Church is a one-and-one-half-story end-gable Greek Revival-style church with a square tower centrally located on the primary (south) elevation. The moderately-pitched roof is clad in asphalt shingle and the building has wood clapboard siding and Greek Revival-style wood cornice returns, corner boards, and fascia boards, atop a granite foundation. The outhouse located northeast of the church is also a contributing building to the historic district. It is not known whether the outhouse is still standing. The church was moved to its present location in 1907 (Harrington, 1998a).	2 Meetinghouse Way	Circa 1850

Building Name and/or Description	Address	Construction Date
The Minister's House/Parsonage is a one-and-one-half-story end-gable residence with modest Greek Revival-style detailing. The building has wood shingle siding and simple cornice returns, corner boards, and fascia boards, atop a stone foundation. The primary (north) elevation is three bays wide, with an offset door and two six-over-six windows at the first floor, with two additional six-over-six windows in the gable end. A secondary entrance is located in a single-story rear addition. The parsonage was moved to its present location in 1907 along with the church (Harrington, 1998a).	3 Church Street	Circa 1856
The Linus S. Jeffers Residence is a one-and-one-half-story Cape Cod-derived vernacular residence with gable-and-ell massing, wood shingle siding, shed dormer windows, and an enclosed single-story porch.	4 Jeffers Way	Late-nineteenth century
The Isaac Rose/Charlie Vanderhoop House, Barn, Cottage, and Shed/cottage comprise a nineteenth-century farmstead sited on approximately 3.7 acres. The residence is a one-and-one-half-story cross-gabled Victorian Eclectic-derived vernacular building with wood shingle siding, ornate sawn vergeboards, an enclosed porch, and a circa-2005 addition.	38 South Road / 890 State Road	Mid-nineteenth century
The Adriaan Vanderhoop House, Barn, and Outhouse comprise a nineteenth-century farmstead sited on approximately 3.1 acres. The residence is a small single-story gable-roofed vernacular building with a central brick chimney, wood shingle siding, two-over-two windows, and a plank door.	46 South Road / 962 State Road	Late nineteenth century
The Lyman Madison House is a one-and-one-half-story vernacular residence with an end gable orientation, wood shingle siding, and a three-bay primary elevation with an offset door.	57 South Road / 903 State Road	Late nineteenth century
The house at 59 South Road/905 State Road is a one-and-one-half-story former boathouse clad in wood shingle atop a raised concrete block foundation. The building has a narrow gable-roofed wall dormer on the south elevation and a single-story wing on the east.	59 South Road / 905 State Road	Circa 1900
The Totem Pole Inn property consists of six buildings on an approximately 6.9-acre parcel, including an Innkeeper's Residence, four cottages, and a shed. The Innkeeper's Residence is a one-and-one-half-story Craftsman-style residence with wood shingle siding, a dormered gable roof, and an inset porch with cobblestone piers. The cottages are stylistically varied but are unified though their use of wood shingle sliding and cobblestone foundations. The shed also has wood shingle siding.	1-9 Totem Pole Way	Circa 1920s

The two contributing objects within the historic district are World War I monuments erected in 1918 and 1919 and currently located in front of the Aquinnah Town Hall. The monuments consist of bronze plaques affixed to boulders. According to the west monument's inscription, the Town of Gay Head (Aquinnah) contributed the "largest number of men in proportion to its population of any town in New England" to serve in the United States armed forces during the war.

Two of the five non-contributing buildings within the historic district are part of the complex of municipal buildings at 955 State Road. The Town Office Building (1989), east of the Town Hall, is a single-story gable-roofed building with wood shingle siding and six-over-six windows. East of the Town Office Building, the Fire Station (circa 1959) is a single-story gable-roofed building with wood shingle siding. Both buildings recall the scale, form, and materials of the 1929 Town Hall. The remaining three noncontributing buildings within the historic district are residences at 2 Jeffers Way, 44 South Road/920 State Road, and 61 South Road/ 917 State Road, all constructed in the 1960s or later.

3.9.2 Historic Context

Throughout the eighteenth century, most residential settlement was concentrated in the western and southern parts of the present-day Town of Aquinnah, which constituted the reservation lands of the Wampanoag Tribe of Gay Head (Aquinnah). Individual residences were linked by a network of paths, and by the mid-nineteenth century, several east-west roads connected the residential areas to the Gay Head Light and Clay Cliffs of Aquinnah to the west and the present-day Town of Chilmark to the east. Throughout the late eighteenth and nineteenth centuries, the community's population was roughly 200 (Harrington, 1998a).

The Gay Head community's civic and religious functions primarily took place within private residences until the mid-nineteenth century. The town's first and only purpose-built school building (now, the Aquinnah Public Library) was constructed prior 1844 north of present-day Old South Road. It was used for a variety of civic, social, and religious purposes in the years and decades before the community erected additional public buildings, and town records show that maintenance and upgrades to the building were frequent. The Baptist congregation of Gay Head met in the school before the Gay Head Community Baptist Church was constructed just north of the school in 1850. Within a few years, the Massachusetts Missionary Society supplied funding for a parsonage which was constructed in 1856 in order to attract a year-round minister to the church. The school, church, and parsonage, along with several additional residences, formed the nucleus of the Gay Head community along Old South Road in the mid-nineteenth century (Harrington, 1998a).

In the 1860s, the "District of Gay Head" was established by the Massachusetts General Court. The district was incorporated as the Town of Gay Head in 1870, despite the objections of the Wampanoag residents, who viewed the town's creation as the alienation of their lands in violation of the Federal Non-Intercourse Act of 1790 (WTGHA, 2022). At the time, tribal members accounted for all of the town's 227 residents, and the survey and privatization of their land allowed non-tribal owners to acquire property in the town. By 1895, at least 18 non-tribal individuals owned land in the Town of Gay Head, and that number would increase in the following decades (Harrington, 1998a).

In the same year that the Town of Gay Head was incorporated, the improvement of South Road (now, State Road) by the State of Massachusetts dramatically altered the development patterns within the town. The new road was laid out north of Old South Road along the existing path that connected Chilmark to the east to the Gay Head Lighthouse. Several buildings were subsequently moved from the older community around Old South Road to the new center of activity around the intersection of South Road and Church Street. The school was relocated in 1878, while the church and parsonage were relocated in 1907. Several additional residences were also moved during this period, and by 1926 only a single unoccupied house remained at the old settlement (Harrington, 1998a).

A post office serving the new Town of Gay Head was established in 1873 and operated out of a succession of private residences, including the Linus S. Jeffers Residence, throughout its roughly 70-year existence. The Post Office/Residence at 980 State Road was likely constructed in the 1920s as a seasonal gift shop and served as the post office and postmistress' residence from the 1930s until the post office was closed during the Second World War. The building presumably continued to serve as a residence following the post office's closure; however, by the late 1990s, the building had been vacant for some time (Harrington, 1998a).

There were no purpose-built town offices in Gay Head until 1929 when the current Town Hall was constructed. Previously, town meetings had been held in the school and town officials rented space in the nearby Linus S. Jeffers residence, which also served as a grocery store and town post office. Linus Jeffers served on the Board of Directors of the Gay Head Improvement Association, which raised funds for the construction of the new Town Hall. The building was designed by Vineyard Haven architect Herbert C. Hancock. Since its construction, the building has housed many of the town's social gatherings since it has the largest capacity of any buildings within the town (Harrington, 1998a).

The year-round (primarily Wampanoag) population declined during the twentieth century as communal economic systems dependent on fishing and agriculture waned. Meanwhile, visitation from off-island increased dramatically, and many new residences were constructed for use as summer rentals or vacation homes. A group of cottages known as the Totem Pole Inn was built during this period just east of the intersection of State Road and Church Street. Gay Head's town center continued to grow in order to meet the changing community's needs. The town was without a dedicated fire department until the fire station was constructed to the east of the Town Hall in about 1959 or 1960; it is still in use today. The town's library was shuffled back and forth between the school and the Town Hall multiple times over several decades before the school closed in 1968 and the town's children began attending larger schools in Chilmark and Vineyard Haven. In 1975, the school was used as additional town office space while a substantial addition was made to the Town Hall. In the same year, the school was permanently converted into the town library and it continues to serve that function today. In the late 1980s, the town once again was in need of additional office space, and a new town office building was built east of the existing Town Hall. Additional alterations were made to the 1975 addition in 1992-1993 to house the town police barracks. The town's name was changed from Gay Head to its Wampanoag name, Aquinnah, in 1998 (Harrington, 1998a).

In general, the buildings comprising the Gay Head – Aquinnah Town Center Historic District continue to be utilized by the community for their original purposes. While the Aquinnah Public Library no longer functions

as a school, it continues to be a center of activity and is well cared for by the community. A large deck and accessible ramp were recently added to the building. The Town Hall has likewise undergone maintenance and repairs in recent years. The Gay Head Community Baptist Church is the only extant church building in the Town of Aquinnah. The Post Office/Residence remains vacant. The Gay Head – Aquinnah Town Center Historic District was listed in the NRHP in 1999 (nomination completed in 1998) and in 2001, the boundary was increased to include an additional 17 contributing buildings and three noncontributing buildings (Harrington and Friedberg, 2001).

3.9.3 NRHP/NHL Criteria and the Maritime Visual Setting

The Gay Head – Aquinnah community's historic relationship with and dependence upon maritime resources is integral to understanding the history and development of the historic district. The Gay Head – Aquinnah Town Center Historic District meets National Register Criteria A and C in the areas of architecture, community planning, and Native American ethnic heritage as an intact group of civic, residential, and religious buildings representing nineteenth- and twentieth-century settlement in the Town of Gay Head. The district's period of significance is circa 1850 (the construction date of the earliest building in the district, the Aquinnah Public Library) to 1951 (50 years prior to the NRHP boundary expansion in 2001; Harrington and Friedberg, 2001). The fire station was not included in the 1998 NRHP nomination because it had not yet reached 50 years of age; however, it retains a high degree of integrity and could be considered a contributing resource to the historic district. Although the library, church, and parsonage have been relocated from their original sites, they meet Criteria Consideration B because their relocation took place during the period of significance and was directly related to the growth of the town center and shifts in development patterns in the late nineteenth and early twentieth centuries. The district is sited on the elevated highlands of a prominent moraine. The surviving ocean views are important surviving elements of a once-more expansive pastoral maritime setting for the district.

3.10 Gay Head – Aquinnah Shops

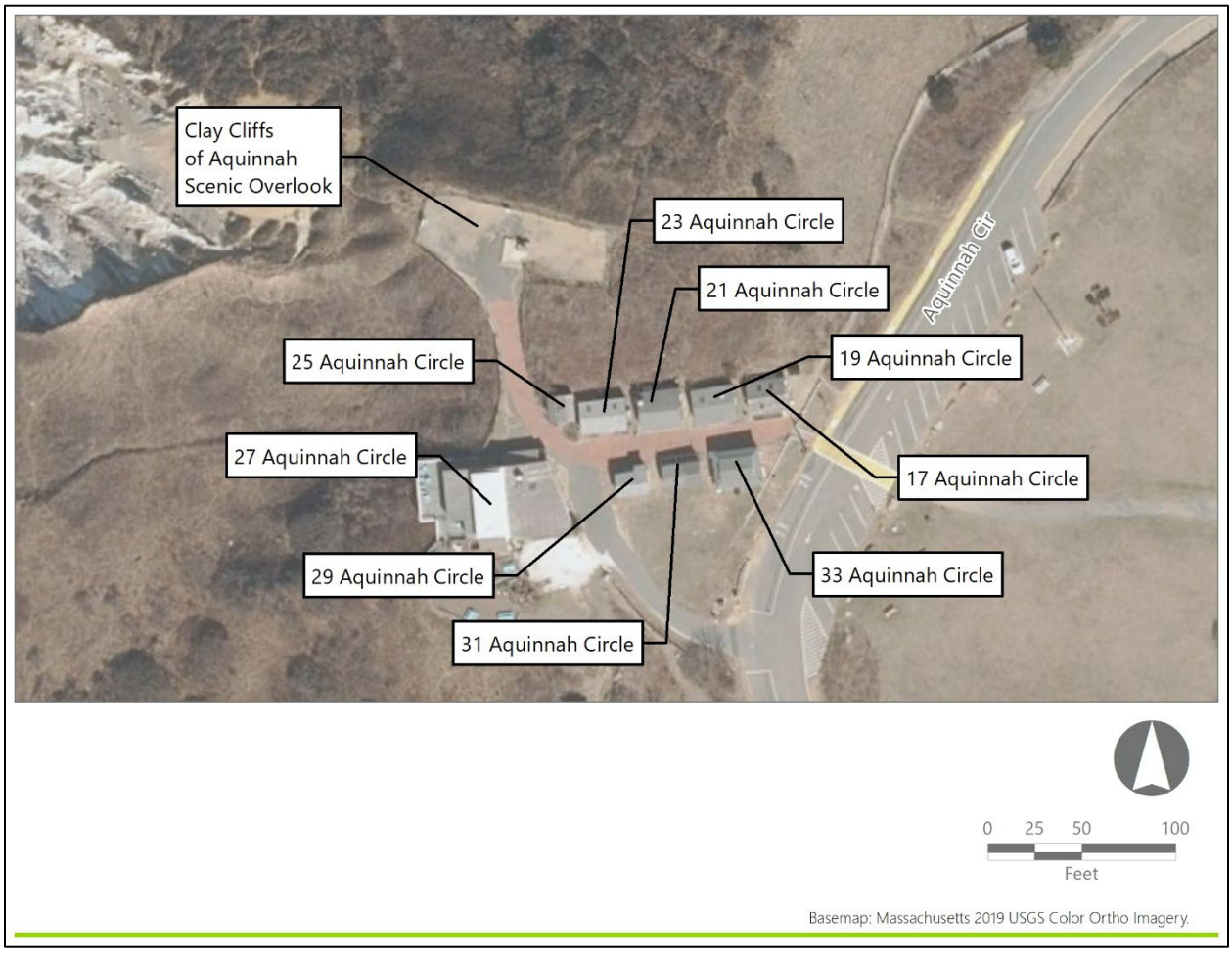
3.10.1 Physical Description and Existing Conditions

The Gay Head – Aquinnah Shops are a group of nine vernacular commercial buildings clustered around a paved walkway leading from a parking area along Aquinnah Circle to the Clay Cliffs of Aquinnah Scenic Overlook (see Figure 3.1-1). All buildings are of similar scale, form, and materials, generally consisting of simple rectangular volumes with gable or hipped roofs and wood-shingle siding. The buildings are sited on two tax parcels comprising approximately 4.8 acres, which comprise the entirety of the Property. The buildings occupy limited portions of the parcels, leaving large areas of open space consisting of low-growing vegetation.

The brick paved walkway which forms the central spine of the Property is accessed from Aquinnah Circle via a short flight of concrete stairs with painted wood handrails. From east to west, the buildings north of the walkway are numbered 17, 19, 21, 23 and 25 Aquinnah Circle. The buildings south of the walkway, from east to west, are numbered 33, 31, 29, and 27 Aquinnah Circle. The westernmost building, 27 Aquinnah

Circle, is separated from the other buildings by an asphalt vehicle access drive which functions as an alternative, stair-free path to the overlook.

Figure 3.10-1. Aquinnah Shops Site Map



Existing conditions and alterations since the Gay Head – Aquinnah Shops were documented in 1998 (Harrington, 1998) are described for each building:

- The building at 17 Aquinnah Circle (circa 2005) is a single-story building with a rectangular footprint, a moderately pitched gable roof clad in wood shingles, and exterior wood shingle wall cladding. The primary (south) elevation features a centered two-leaf entry door flanked by small windows. This entry is accessed by a wood ramp. The east elevation has a secondary entrance. The building does not appear in aerial imagery dated to 2001 and appears to have been completely rebuilt in approximately 2005 (Harrington, 1998b; MassGIS, 2001, 2005).
- The building at 19 Aquinnah Circle (early- to mid-twentieth century) is a single-story building with a rectangular footprint, a low gable roof clad in asphalt shingles, and exterior wood shingle wall cladding. The primary (south) elevation has a deep eave overhand and features a centered two-leaf

entry door flanked by paired one-over-one windows. The entry is raised three steps from the paved walkway. The doors and windows have been replaced since 1998 but retain their approximate size and position (Harrington, 1998b).

- The building at 21 Aquinnah Circle (circa 2005) is a single-story building with a rectangular footprint, a low gable roof clad in asphalt shingles, and exterior wood shingle wall cladding. The primary (south) elevation has three pairs of sliding service windows sheltered by an open porch. The building appears to have been completely rebuilt in approximately 2005 and does not appear in aerial imagery dated to 2001 (Harrington, 1998b; MassGIS, 2001, 2005).
- The building at 23 Aquinnah Circle (circa 1950s) is a single-story building with a rectangular footprint, a low gable roof clad in asphalt shingles, and exterior wood shingle wall cladding. The primary (south) elevation features a centered two-leaf entry door flanked by large windows. The entry is raised two steps form the paved walkway. The south elevation windows were replaced after 1998, when they consisted of paired three-light casement windows (Harrington, 1998b).
- The building at 25 Aquinnah Circle (circa 2013) is the smallest of the Gay Head – Aquinnah Shops buildings and is set back farther from the walkway than 17-23 and 29-33 Aquinnah Circle. It is a single-story building with an approximately square footprint, a low gable roof clad in wood shingle, and exterior wood shingle or bark wall cladding. It has been completely rebuilt since 1998 and does not appear in aerial imagery dated to 2011-2012 (Harrington, 1998b; MassGIS, 2011-2012, 2013-2014).
- The building at 27 Aquinnah Circle (mid-twentieth century) is the largest of the Gay Head – Aquinnah Shops buildings and occupies a separate tax parcel from the rest of the shops. It is a one-and-one-half-story building with a roughly rectangular footprint, a low gable roof clad in asphalt shingle, and exterior wood shingle wall cladding. It has two small shed additions and a shed dormer. The primary (east) elevation has an entrance within an inset porch and a pair of sliding service windows. The building houses a restaurant with indoor and outdoor seating areas, including a large wood deck and concrete patio. It does not appear to have been altered significantly since 1998 (Harrington, 1998b).
- The building at 29 Aquinnah Circle (circa 2015) is a single-story building with a rectangular footprint, a low gable roof clad in asphalt shingle, and exterior wood shingle wall cladding. It has been completely rebuilt since 1998 and does not appear in aerial imagery dated to 2015 (Harrington, 1998b; Town of Aquinnah, 2022).
- The building at 31 Aquinnah Circle (mid-twentieth century; rebuilt or enlarged circa 2008) is a single-story building with a rectangular footprint, a low gable roof clad in asphalt shingles, and exterior wood shingle wall cladding. The primary (north) elevation has double leaf, nine-light wood entry doors and a large fixed-sash window. The entry is raised two steps from the paved walkway. The building has been enlarged (or rebuilt) and the north elevation has been altered since 1998, when the entry doors were centered and flanked by two small windows (Harrington, 1998b; MassGIS, 2005, 2008).
- The building at 33 Aquinnah Circle (circa 1950s; possibly rebuilt circa 2000) is a single-story building with a rectangular footprint, a gable-on-hip roof clad in asphalt shingles, and exterior wood shingle wall cladding. The primary (north) elevation has four service windows. A single-light door and a

large window are located on the east elevation. The building has been substantially altered or possibly rebuilt since 1998, when it had a hipped roof and an inset porch with a door on the north elevation (Harrington, 1998b; MassGIS, 1990s, 2001).

The buildings were observed to be in fair to good condition when they were documented in 1998 (Harrington, 1998b). The apparent rebuilding or substantial remodeling of six of the buildings since that date, as well as the replacement of many of the remaining buildings' windows and doors, is likely due to the buildings' ongoing exposure to harsh seaside conditions.

3.10.2 Historic Context

The Aquinnah Cliffs and Gay Head Light have been a tourist attraction since the nineteenth century. Several small shops and "tepees" catering to tourists were present along the cliffs by the early twentieth century but were relocated to the present site by the Town of Gay Head (now, the Town of Aquinnah) in order to preserve the setting of the overlook. The earliest extant building on the site was built in the early-to-mid-twentieth century, while the remaining buildings are believed to have been constructed from the mid-twentieth century to the early twenty-first century. The form, scale, and materials of the buildings have been consistent with the vernacular building traditions of coastal New England: modest in size, with low-to-moderate gable roofs, shallow roof eaves, simple doors and windows, and shingle cladding. Historically, the shops sold souvenir items including Wampanoag crafts and objects made from the local clay (Harrington, 1998b).

The Gay Head Cliffs, comprising 24 acres under municipal and Wampanoag trust ownership, were designated as a National Natural Landmark by the National Park Service in 1965 (NPS, 2021). Gay Head Cliffs, including the Gay Head – Aquinnah Shops, was designated as a District of Critical Planning Concern by the Martha's Vineyard Commission (Dukes County). Construction within the district is subject to limitations in order to preserve the natural, ecological, cultural, and historic resources of the district (Town of Aquinnah, 2022). The Gay Head – Aquinnah Shops were surveyed by the Massachusetts Historical Commission in 1998. The same year, the name of the town and its namesake cliffs were changed from Gay Head to Aquinnah, their original Wampanoag name.

Today, the buildings are used primarily as seasonal restaurants and gift shops catering to the tourists who visit the Clay Cliffs of Aquinnah Scenic Overlook. Many of the businesses are multigenerational family enterprises owned by members of the Wampanoag Tribe of Gay Head (Aquinnah). As of 2015, tribal members had the right of first refusal to lease the building lots from the Town of Aquinnah (Elvin, 2015). The buildings now appear to be under a mix of individual and tribal ownership (Town of Aquinnah, 2022).

3.10.3 NRHP/NHL Criteria and the Maritime Visual Setting

As a historic district, the Gay Head – Aquinnah Shops meet National Register Criterion A for their association with the development of Aquinnah Cliffs as a tourist attraction during the late nineteenth and early twentieth centuries. The district also meets Criterion C as a group of intact twentieth-century commercial buildings in keeping with the characteristic scale, form, and materials of the vernacular building tradition of

coastal New England. The natural landscape and maritime visual setting of the Aquinnah Cliffs, including expansive views of the Atlantic Ocean, are key to understanding the Gay Head-Aquinnah Shops' historic significance as a commercial development directly tied to seaside tourism.

3.11 Gay Head – Aquinnah Coast Guard Station Barracks

3.11.1 Physical Description and Existing Conditions

The Gay Head – Aquinnah Coast Guard Station Barracks is currently located at 1147 State Road. The building is a one-and-a-half-story residential building set on a high stone foundation with stone support piers. The building is clad in wood shingles and two shed dormers are located on the north and south rooflines. A small, one-story addition is located to the east.

3.11.2 Historic Context

The building's exact construction date is unknown; however, it was originally a barracks located at the Coast Guard Station near the Gay Head Light. In 1870, South Road was constructed, and multiple buildings were relocated to the new roadway. According to the MHC Form, the Gay Head – Aquinnah Coast Guard Station Barracks was moved to its present location after World War II and was converted to a residence (Harrington, 1998g).

3.11.3 NRHP/NHL Criteria and the Maritime Visual Setting

As stated above, the Gay Head – Aquinnah Coast Guard Station Barracks was relocated from its original location, thus affecting its integrity of setting; however, the building retains its integrity of materials, workmanship, association, and design. The building is eligible for listing under Criterion A for its association with the United States Coast Guard Station in Aquinnah.

Although the Gay Head - Aquinnah Coast Guard Station Barracks was relocated from its original maritime setting, the building is currently sited on an elevated parcel of land with ocean views.

4.0 MITIGATION MEASURES

Mitigation measures at these historic properties are detailed in this section. These mitigation measures were developed in consultation with the Participating Parties by individuals who meet the Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61) and are appropriate to fully address the nature, scope, size, and magnitude of adverse effects including cumulative effects caused by the Project, NRHP-qualifying characteristics of each historic property that would be affected. These mitigation measures also include actions to respond to some reasonably foreseeable hazards unrelated to the Project that pose risks to the long-term preservation of affected historic properties, such as climate change.

4.1 Americans with Disabilities Act-Compliant Access for The Aquinnah Shops

4.1.1 Purpose and Intended Outcome

The Town of Aquinnah, in consultation with Revolution Wind, has identified a need to improve ADA-compliant access to the Aquinnah Shops and adjacent Aquinnah Overlook properties. The Town will be replacing the existing wood steps linking the Aquinnah Shops with the Aquinnah Circle parking areas, but wheelchair accessible access will require additional planning and construction to ensure the physical and historic integrity of the Aquinnah Shops is maintained. Once completed, the access project will enhance public appreciation of the historic property by encouraging visitation from a broader spectrum of the resident community and tourists.

4.1.2 Scope of Work

The scope of work will consist of the following:

- Review existing town and county planning documents and regulations;
- Photograph and document (e.g. map) existing conditions;
- Draft ADA-compliant access plans that are consistent with the Secretary of the Interior's (SOI) *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*;
- Develop a final plan to include comments from the Participating Parties;
- Distribute the final plan to the Participating Parties;
- Photograph and document as-built conditions upon completion of construction.

4.1.3 Methodology

Revolution Wind will release a request for proposals (RFP) for consultant services for the scope of work and select a consultant to perform the Scope of Work listed in Section 4.1.2. The chosen consultant should have a demonstrated knowledge of climate change and the treatment of historic properties. Public engagement sessions will be held to solicit comments, questions, and concerns from the residents of the Town of Aquinnah. The sessions will inform the preparation of the draft plan which will be distributed to the Participating Parties for review and comment. Additional sessions should be held as necessary to allow for public engagement. The comments shall be addressed and incorporated in the final document which will be distributed to the Participating Parties.

4.1.4 Standards

The project will comply with the following standards:

- The Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (36 CFR 67.7);
- Martha's Vineyard Commission's planning and climate change guidance, as applicable;
- Town of Aquinnah Community Preservation Committee guidance, as applicable;
- Town of Aquinnah Planning Board Review Committee guidance, as applicable; and

4.1.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFP;
- Proposals by qualified consultants in response to the RFP;
- Existing conditions photography and documentation (e.g., mapping);
- Draft construction plans;
- Final construction plans;
- Final plans;
- As-Built photography and documentation.

4.1.6 Funds and Accounting

Funding amounts are being determined in consultation with the consulting parties.

4.2 Weatherization of the Edwin D. Vanderhoop Homestead

4.2.1 Purpose and Intended Outcome

The purpose of this mitigation measure is to fund weatherization improvements to the Edwin D. Vanderhoop Homestead property. The property houses the Aquinnah Cultural Center, a local museum operated by a local not-for-profit organization and staff by members of the Wampanoag Tribe of Gay Head (Aquinnah). The weatherization improvements are intended to maintain the physical and historic integrity of the property while reducing the costs of maintaining the building and collections.

4.2.2 Scope of Work

The scope of work will consist of the following:

- Review existing town and county planning documents and regulations;
- Review existing energy efficiency guidance, including resources from the National Park Service's Technical Preservation Services and the National Trust for Historic Preservation;
- Photograph and document (e.g., map) existing conditions;
- Develop draft plans and specifications;

- Consult with Participating Parties;
- Develop draft plans and specifications to be distributed to the Participating Parties for review and comment;
- Develop a final plans and specifications to include comments from the Participating Parties;
- Distribute the final plans and specifications to the Participating Parties;
- Implement the improvements; and
- Develop as-built documentation to be distributed to the Participating Parties.

4.2.3 Methodology

Revolution Wind will release an RFP for consultant and contracting services for the scope of work and select a consultant to perform the Scope of Work listed in Section 4.2.2. The preferred consultants and contractors will have experience in developing energy efficiency plans for historic buildings. The draft and final plans and specifications will be developed in consultation with the Participating Parties.

4.2.4 Standards

The project will comply with following standards:

- The Town of Aquinnah Building Code, as applicable;
- The Town of Aquinnah Energy and Climate Committee guidance, as applicable;
- The Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (36 CFR 67.7); and
- National Park Service's *Improving Energy Efficiency in Historic Buildings* Preservation Brief 3.

4.2.5 Documentation

The following documentation is to be provided for review by Participating Parties:

- RFPs;
- Proposals by qualified consultants in response to the RFP.
- Preliminary draft plans and specifications;
- Final plans and specifications; and
- As-built documentation including photographs.

4.2.6 Funds and Accounting

Funding amounts are being determined in consultation with the consulting parties.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required:

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

5.2.2 Revolution Wind, LLC

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Funding the mitigation measures specified in Section 4.0;
- Completion of the scope/s of work in Section 4.0;
- Ensuring all Standards in Section 4.0 are met;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.3 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational

and consultation meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.

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ATTACHMENT 14 – HISTORIC PROPERTIES TREATMENT PLAN FOR THE REVOLUTION WIND FARM: THE GAY HEAD LIGHTHOUSE, TOWN OF AQUINNAH, DUKES COUNTY, MASSACHUSETTS

Historic Property Treatment Plan

for the

Revolution Wind Farm

The Gay Head Lighthouse

Town of Aquinnah, Dukes County, Massachusetts

Submitted to:

Bureau of Ocean Energy Management
U.S. Department of the Interior

Prepared for:

Revolution Wind | Powered by Ørsted & Eversource

Revolution Wind, LLC
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June 2023

ABSTRACT

Federal Undertaking:	Revolution Wind Farm and Revolution Wind Export Cable Project
Location:	Outer Continental Shelf and Rhode Island
Federal and State Agencies:	Bureau of Ocean Energy Management National Park Service U.S. Army Corps of Engineers Massachusetts Historical Commission Rhode Island Historical Preservation & Heritage Commission New York Historic Preservation Office Connecticut Historic Preservation Office Advisory Council on Historic Preservation
Regulatory Process:	National Environmental Policy Act Section 106 of the National Historic Preservation Act Section 110(f) of the National Historic Preservation Act
Purpose:	This Historic Property Treatment Plan provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve adverse effects from the Revolution Wind Project.
Adverse Visual Effect Finding for:	The Gay Head Lighthouse
Submitted By:	Revolution Wind, LLC
Date:	June 2023

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADLS	Aircraft Detection Lighting System
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
DEIS	Draft Environmental Impact Statement
EDR	Environmental Design and Research, D.P.C.
FEIS	Final Environmental Impact Statement
FR	Federal Regulation
HPTP	Historic Property Treatment Plan
MHC	Massachusetts Historical Commission
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
RIHPHC	Rhode Island Historical Preservation & Heritage Commission
ROD	Record of Decision
RWF	Revolution Wind Farm
SOI	Secretary of the Interior
USCG	United States Coast Guard
VERI	Vineyard Environmental Research Institute
WTG	Wind Turbine Generator

1.0 EXECUTIVE SUMMARY

This Historic Property Treatment Plan (HPTP) for the Gay Head Lighthouse, which is listed on the National Register of Historic Places (NRHP) (the Historic Property) provides background data, historic property information, and detailed steps that will be implemented to carry out mitigation actions to resolve potential adverse effects preliminarily identified by the applicant in the *Historic Resources Visual Effects Analysis – Revolution Wind Farm*, dated July 2022 (HRVEA; EDR, 2023) for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (collectively, the Undertaking). Revolution Wind LLC (Revolution Wind) has provided in accordance with the Bureau of Ocean Energy Management's (BOEM) Findings of Adverse Effect (FoAE) for the Undertaking under the National Historic Preservation Act (NHPA).

BOEM has used the National Environmental Policy Act (NEPA) substitution process to fulfill its Section 106 obligations as provided for in the NHPA implementing regulations (36 CFR § 800.8(c)), and BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers, federally recognized Native American Tribes, and other NHPA Section 106 consulting parties in accordance with this process. Revolution Wind has provided this HPTP to BOEM for inclusion in the Final Environmental Impact Statement (FEIS).

This HPTP describes the mitigation measures to resolve adverse effects on historic properties, the implementation steps and timeline for actions. The mitigation measures are based on the evaluations and outreach performed by Revolution Wind prior to the issuance of the DEIS as well as outreach to consulting parties performed by BOEM. This HPTP document has undergone revision and refinement in consultation with the Massachusetts State Historic Preservation Officer, the Rhode Island State Historic Preservation Officer, the ACHP, and other consulting parties throughout the NEPA substitution process. This HPTP is included in the Memorandum of Agreement (MOA) issued in accordance with 36 CFR §§ 800.8, 800.10.

This HPTP is organized into the following sections:

- **Section 1.0, Introduction**, outlines the content of this HPTP.

- **Section 2.0, Cultural Resources Regulatory Context**, briefly summarizes the Undertaking while focusing on cultural resources regulatory contexts (federal, tribal, state, and local, including preservation restrictions), identifies the historic property discussed in this HPTP that will be adversely affected by the Undertaking, and summarizes the pertinent provisions and attachments of the HRVEA (EDR, 2023) and *Revolution Wind Farm Construction and Operations Plan* (COP; Revolution Wind, 2022) that guided the development of this document.

- **Section 3.0, Existing Conditions, Historic Significance, and Maritime Setting**, provides a physical description of the historic property included in this HPTP. Set within its historic context, the applicable NRHP criteria for the historic property are discussed with a focus on the contribution of a maritime visual setting to its significance and integrity.

- **Section 4.0, Mitigation Measures**, presents specific steps to carry out the applicant-proposed mitigation actions identified in the COP or alternative measures developed through stakeholder

engagement meetings to date. The mitigation action includes a detailed description, intended outcome, methods, standards, and requirements for documentation. The mitigation action details may be revised, based on feedback gathered during the process.

- **Section 5.0, Implementation**, establishes the process for executing mitigation actions at the historic property, as identified in Section 4.0 of this HPTP. For each/the action, organizational responsibilities are outlined, a timeline is provided, and regulatory reviews are listed.

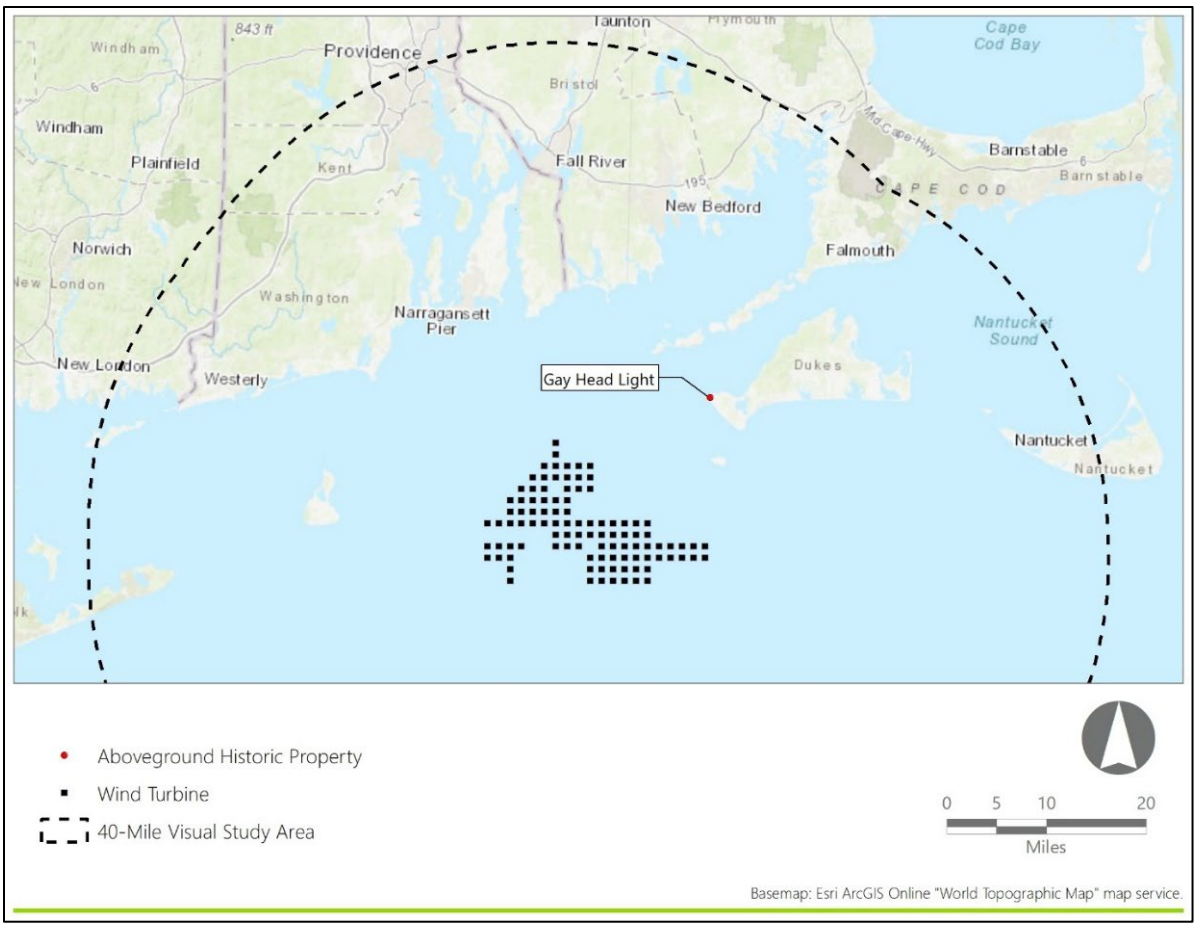
- **Section 6.0, References**, is a list of works cited in this HPTP.

2.0 BACKGROUND INFORMATION

2.1 Project Overview: Revolution Wind Farm and Revolution Wind Export Cable

The Undertaking is a wind-powered electric generating facility composed of up to 100 wind turbine generators (WTGs) and associated foundations, two offshore substations, and inter-array cables connecting the WTGs and the offshore substations (see Figure 2.1-1). The WTGs, offshore substations, array cables, and substation interconnector cables would be located on the Outer Continental Shelf approximately 15 nautical miles (18 statute miles) southeast of Point Judith, Rhode Island, approximately 13 nautical miles (15 statute miles) east of Block Island, Rhode Island, approximately 7.5 nautical miles (8.5 statute miles) south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nautical miles (12 to 14 statute miles) south/southwest of varying points of the Rhode Island and Massachusetts coastlines (62 FR 33708). In addition, two submarine export cables located in both federal waters and Rhode Island State territorial waters, will connect the offshore substation to the electrical grid. The proposed interconnection location for the Undertaking is the existing Davisville Substation, which is owned and operated by The Narragansett Electric Company d/b/a National Grid and located in North Kingstown, Rhode Island. The visible offshore components of the operational Undertaking will be located on Lease OCS-A 0486 in water depths ranging from approximately 108 to 125 feet.

Figure 2.1-1. Project Location



2.2 Section 106 and Section 110(f) of the National Historic Preservation Act (NHPA)

This HPTP was developed in accordance with the HRVEA and COP and reflects consultations conducted by BOEM with multiple consulting parties, including the Massachusetts State Historic Preservation Officer (MA SHPO), the Town of Aquinnah, and the Gay Head Lighthouse Advisory Board. The regulations at 36 CFR § 800.8 provide for use of the NEPA 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. Under these provisions, issuance of an ROD and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking, including to National Historic Landmarks for which BOEM must provide a higher standard of care, as required by Section 110(f) of the NHPA.

The measures to avoid and minimize adverse effects to identified historic properties are described in the COP (Section 4.4.1.3 and Appendix BB).

This HPTP addresses the mitigation requirements identified by BOEM to resolve the remaining adverse effects after application of the above-referenced measures. The mitigation measures reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind.

All activities implemented under this HPTP will be conducted in accordance with any conditions imposed by BOEM in its ROD and with applicable local, state and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 5.2 – Organizational Responsibilities.

2.2.1 Municipal Regulations

Before implementation, any on-site mitigation measures will be coordinated with local municipalities and commissions to obtain approvals, as appropriate. These may include, but are not limited to building permits, zoning, land use, planning, historical commissions, and design review boards. Additional information regarding compliance with local requirements appears in Section 5.0, Implementation.

2.2.2 Preservation Easements and Restrictions

Preservation easements and restrictions protect significant historic, archaeological, or cultural resources. The State of Massachusetts preservation restrictions are outlined in Massachusetts General Law Chapter 184, Sections 31-33. The Massachusetts Historical Commission (MHC) holds a Historic Preservation Restriction, and the United States Coast Guard (USCG) holds an Aid to Navigation Easement on the historic property per 10 USC 2668 Easements for Rights of Way. Any mitigation work associated with the historic property will comply with the conditions of all extant historic preservation easements. Additional information regarding compliance with extant preservation restrictions appears in Section 5.0, Implementation.

2.3 Participating Parties

BOEM initiated consultation under Section 106 with invitations to consulting parties on April 30, 2021. BOEM hosted the first Section 106-specific meeting with consulting parties on December 17, 2021, pursuant to Sections 106 and 110(f) of the NHPA and in accordance with 36 CFR 800.8.

Following BOEM initial Section 106 meeting with consulting parties, Revolution Wind held stakeholder outreach meetings (see Section 5.3) to review conceptual mitigation measures for the historic property and invited the following parties:

- The Wampanoag Tribe of Gay-Head Aquinnah
- The Martha's Vineyard Commission
- The Gay Head Lighthouse Advisory Committee
- The Town of Aquinnah
- The Massachusetts Historical Commission.[1]

[1] MHC was invited to attend stakeholder outreach meetings regarding historic properties in Massachusetts; however, MHC has not participated in outreach meetings for Revolution Wind.

3.0 EXISTING CONDITIONS, HISTORIC SIGNIFICANCE, AND MARITIME SETTING

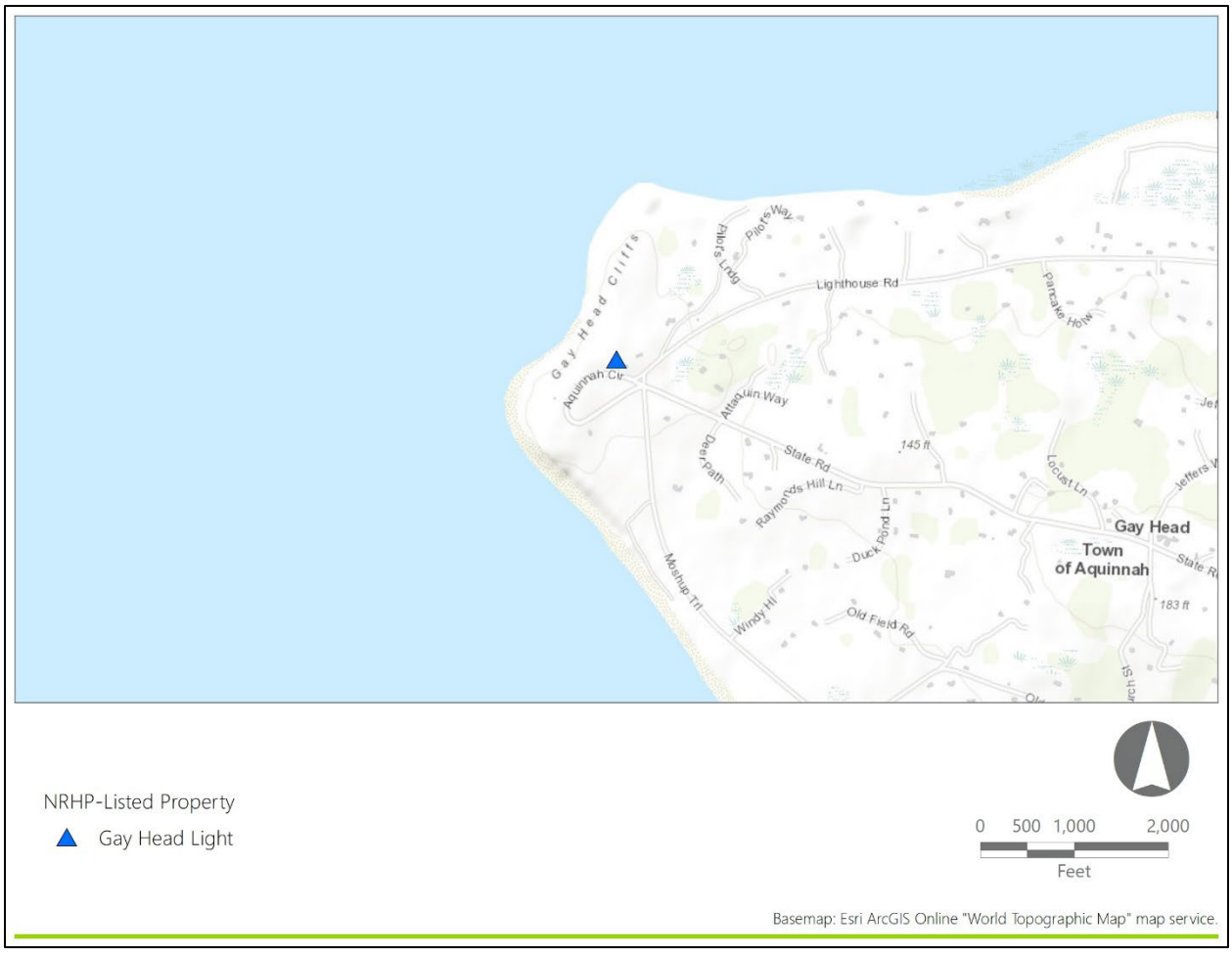
3.1 Historic Properties

This HPTP involves one historic property, as identified in Table 3.1-1 and located on Figure 3.1-1.

Table 3.1-1. Historic Properties included in the HPTP

Name	Property Designation	Municipality	State	Site No. (Agency)	Ownership	Historic Property Type
The Gay Head Lighthouse	NRHP-Listed	Town of Aquinnah	MA	MHC #GAY.900 (MHC); GSA 1-X-MA-0877 (USCG); 87001464 (NPS)	Public	Lighthouses and Navigational Aids

Figure 3.1-1. Historic Property Location



In Section 3.3, the historic property is described both physically and within its historic context, with a focus on the contribution of a maritime visual setting to the property's significance and integrity.

3.2 Maritime Setting

For the purposes of this analysis and assessment, views of marine waters are considered critical aspects of maritime settings. The influence of the marine environment and related human activities on historical development patterns is extensive and may be expressed in areas without direct lines of sight to the sea. Although these types of setting may contribute to the significance of historic properties, they would not be subject to alteration as a result of the proposed undertaking and are not considered further in this report.

The Gay Head Lighthouse is considered within the HRVEA as historic property type "Lighthouses and Navigational Aids" which is defined by the historic associations with water-related transportation and defense, prominent views of the sea and dominance of the surrounding landscape, and common architectural forms. These structures present themselves as prominent and iconic features on the coastal landscape, possess elevated views of the ocean horizon, and are sited specifically for those elevated views.

Lighthouses and other historic navigation aids in the study area include properties that were intended to serve mariners plying large areas of open water and other properties that served specific navigation routes through the complex and treacherous waters of the region's bays. All of these properties have an obvious association with maritime settings, but the scale of those settings will vary due to the conformation of the local landscape and seas and the design and purpose of each navigation aid.

3.3 The Gay Head Lighthouse

3.3.1 Physical Description and Existing Conditions

Sited on 1.35 acres off Aquinnah Circle at the southwestern point of the Town of Aquinnah, the conical 1856 brick lighthouse sits just east of clay cliffs which overlook Devil's Bridge rocks. The lighthouse marks the entrance to Vineyard Sound from the south. In 2015, the structure was relocated 134 feet from its original location, away from the cliffs due to erosion concerns (Gay Head Lighthouse, 2018). The structure was placed on a new granite sub-foundation, at the same elevation as its original location (Unnamed, 2015).

The red brick tower shaft houses interior stairs and measures 17.5 feet in diameter and 45.7 feet in height (DiStefano, 1981). A mid-level balcony, corresponding to the interior lamp room, rests on a sandstone entablature and has iron railings. The glazed lens room with black iron structure contains the optic and sits atop the masonry with its own iron balcony (Tait, 1987). The lens room is enclosed by an iron roof with ventilator and lightning rod. A series of square four-pane windows perforate the building envelope at various heights around the circumference of the lighthouse. Recent improvements include replacement iron railings that match the original set, and repair to masonry damage where the lens room and balcony meet the brick (Gay Head Lighthouse, 2018).

Following the relocation of the Gay Head Lighthouse in 2015, cliff erosion was no longer the biggest threat to the structure. Due to age and maritime siting, the poor condition of the Gay Head Lighthouse building

materials is currently posing the largest risk to its long-term survival. The curtain wall of the lens room, as well as brick, sandstone, and mortar all display signs of deterioration (Gay Head Lighthouse, 2018).

3.3.2 Historic Context

The extant circa 1856 Gay Head Lighthouse is the second lighthouse on this site, a replacement for the original wood structure authorized in 1799 by President John Adams (DiStefano, 1981). By 1854, the original structure was being confused with the Sankay Light on Nantucket, resulting in a shipwreck. As a response to the tragedy, Congress allocated $30,000 for a new brick lighthouse, a first-order Fresnel lens from France, and a keeper's residence (demolished circa 1961). Caleb King of Boston constructed the new Gay Head Lighthouse and keeper's house using brick from the nearby Chilmark Brick Works. The lighthouse's reopening in 1856 was well publicized and tours opened to the public shortly thereafter (Gay Head Lighthouse, 2018).

Between 1856 and 1952 the Fresnel lens served as the lighthouse beacon, under the care of 18 principal keepers and 10 assistant keepers. The first Wampanoag Tribe of Gay Head (Aquinnah) member to serve as the Gay Head Lighthouse Keeper was Charles W. Vanderhoop, Sr. who served in that position from 1930-1933 (Gay Head Lighthouse, 2018). Following the introduction of electricity and an upgraded optic at the lighthouse, the USCG donated the Fresnel lens to the Martha's Vineyard Museum, and the keeper's house was demolished. With a fully automated beacon, the USCG began its operation of the Gay Head Lighthouse in 1956.

Under USCG stewardship, and with insufficient funds for maintenance, the condition of the Gay Head Lighthouse began its slow decline in the 1960s, continuing into the early 1980s. In 1984, Congressional hearings to save the Gay Head Lighthouse from demolition resulted in the licensure of a 35-year lease to the Vineyard Environmental Research Institute (VERI) who were given control of the management and maintenance of the property (Gay Head Lighthouse, 2018). The USCG continued to operate the navigational aid beacon through an access easement (see Section 2.2.2). VERI commenced fundraising activities to make repairs and re-open the lighthouse to the public, which was done in 1986, 30 years after its closure. Once again keepers and assistant keepers were appointed, including Charles Vanderhoop, Jr. who was born in the keeper's house. In 1994, VERI transferred its license to the Martha's Vineyard Museum, and in 2009 the Museum provided President Barack Obama a private tour of the property with his family (Gay Head Lighthouse, 2018).

Though cliff erosion was a decades-old problem at the Gay Head Lighthouse, it became an increased threat in 2010 when a portion of the perimeter fence tumbled down the cliff face. By 2012, the Save the Lighthouse Committee was formed to research options for the continued safety of the structure, including a potential relocation which was determined to be the solution. In 2013, the Gay Head Lighthouse was featured on the National Trust of Historic Preservation's list of 11 Most Endangered Places. Its inclusion on the list put in motion a years-long fundraising campaign for its relocation by International Chimney Corporation who recommended it occur no later than 2015. With funding in place, the move began on May 28, 2015, and finished on May 30, 2015, with the Gay Head Lighthouse's safety assured for another century (Gay Head Lighthouse, 2018).

The Town of Aquinnah filed for ownership of the property in 2015, as it was determined to be excess to the needs of the UCSG (General Services Administration, 2013). The deed to the town included a preservation easement and access restrictions, described in Section 2.2.2. The Gay Head Lighthouse Advisory Committee is a municipal department board which manages the property.

3.3.3 NRHP Criteria and the Maritime Visual Setting

In 1987, the Gay Head Lighthouse was listed on the NRHP as part of the Lighthouses of Massachusetts Thematic Resources Area (DiStefano, 1981). At the time of construction, it was considered one of the ten most important lights on the Atlantic Coast and contained one of the country's first Fresnel lenses. The Gay Head Lighthouse is significant under Criterion A as a historic maritime structure and aid to navigation. It is also significant under Criterion C as an outstanding example of nineteenth-century maritime architecture (Tait, 2017).

The site chosen for the lighthouse's 2015 relocation was consistent with the setting of the original, thereby allowing for the continued integrity of "association, setting, feeling and relationship to the Gay Head cliffs and to the ocean as an aid to navigation" (Unnamed, 2015). Therefore, the Gay Head Lighthouse continued to be NRHP-listed during and following its relocation. Since that time, physical improvements have been consistent with the Secretary of the Interior's (SOI) Standards (36 CFR 68) which have allowed the structure to retain integrity of materials, workmanship, and design.

As stated above, the Gay Head Light is located on the Gay Head Cliffs and "marks the Devil's Bridge rocks, the shoals of the south shore of the island and the entrance to Vineyard Sound from Buzzard's Bay" (Tait, 2017). Devil's Bridge extends over a mile from the cliffs and has been the site of numerous accidents. In 1838 the lighthouse was replaced, and the new light could be seen for more than 20 miles (D'Entremont, 2021). The need for a lighthouse at this location is evident, and despite the powerful and long-distance light, due to Devil's Bridge and the strong currents, shipwrecks continued to occur. The setting of the Gay Head Light is intrinsically linked to the water with its location high on the Gay Head Cliffs, marking Vineyard Sound and the Atlantic Ocean.

4.0 MITIGATION MEASURES

Mitigation measures at the historic property are detailed in this section. The mitigation measures for the Gay Head Lighthouse (detailed below) reflect consultations among consulting parties to refine a conceptual mitigation framework proposed by Revolution Wind. BOEM and Revolution Wind have identified steps to implement these measures in consultation with Participating Parties, led by individuals who meet the qualifications specified in the Secretary of the Interior's Qualifications Standards for History and Architectural History (36 CFR 61).

4.1 Historic Rehabilitation of the Gay Head Lighthouse

4.1.1 Purpose and Intended Outcome

In consultation with the Town of Aquinnah and the Gay Head Lighthouse Advisory Board, this mitigation measure will contribute funds to the next phase of rehabilitation at the Gay Head Lighthouse, as discussed at the Revolution Wind stakeholder meetings on February 1, 15 and 18, 2022. The Gay Head Lighthouse Advisory Board, a municipal board in the Town of Aquinnah, has commissioned a report identifying preservation and restoration needs for the lighthouse, the ICC Commonwealth Corporation *Report of December 2021 Inspection Gay Head Lighthouse Aquinnah, MA* dated April 13, 2022. The intended outcome is to ensure the long-term preservation of the lighthouse by contributing funds for physical repairs and/or restoration of the historic building materials according to the priorities identified by the report. During consultation, the Town requested contracting support for the restoration effort at the Gay Head Lighthouse. Should sufficient funds be available for the next phase of restoration the Gay Head Lighthouse in the timeframe set forth in Section 4.1.3 below, Revolution Wind would provide contracting support for restoration of the curtain wall.

4.1.2 Scope of Work

The scope of work includes the following:

- Revolution Wind will provide the funding amount identified in Attachment 7 of the MOA; and
- If sufficient funds are available to complete the full restoration project as defined in the previously referenced report, then Revolution Wind will provide additional support outlined below and in Sections 4.1.3 and 4.1.5 in consultation with the Participating Parties.
    - Contracting support for restoration of the curtain wall per the ICC Commonwealth Corporation *Report of December 2021 Inspection Gay Head Lighthouse Aquinnah, MA* dated April 13, 2022. Contracted work would include:
        - Prior to any work commencing, photographic and written documentation of the existing conditions will be recorded;
        - Development of draft specifications and construction drawings to be distributed to the Participating Parties for review and comment;
        - Final Specifications and construction drawings to be distributed to the Participating Parties for review and comment;
        - Progress reports as requested by the Participating Parties to be distributed to the Participating Parties for review and comment; and

- A Summary Report of the work completed including photographs and as-built documentation to be distributed to the Participating Parties.

4.1.3 Methodology

Revolution Wind will deposit the funding stipulated in Attachment 7 in an escrow account. If notified by the Town of Aquinnah that sufficient funds are available for the defined scope of work within five years of the execution of the MOA, Revolution Wind will hire a qualified contractor to complete the next phase of restoration at the Gay Head Lighthouse. Prior to any work commencing, photographic and written documentation of the existing conditions will be recorded. Drawings and specifications supporting the scope of work (see Section 4.1.2 and 4.1.5) will be developed in compliance with applicable standards (see Section 4.1.4). The project will require the mobilization of a qualified contractor that is experienced in the repair and restoration of historic lighthouses.

4.1.4 Standards

The scope of work will comply with following standards:

- Town of Aquinnah, MA Building Code;
- Martha's Vineyard Commission planning guidance, as applicable;
- Preservation Restriction (MGL Chapter 184, Section 31-33);
- United States Coast Guard Aid to Navigation (ATON) Access Easement (U. S. Department of Homeland Security and U. S. Coast Guard, 2005);
- The Town of New Shoreham Building, Zoning, Land Use & Planning guidance and regulations;
- The Town of New Shoreham Historic District Commission;
- United States Coast Guard Aid to Navigation (ATON) Access Easement (U. S. Department of Homeland Security and U. S. Coast Guard, 2005);
- *Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character* (Nelson, 1988);
- *Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings;*
- *National Register Bulletin 34: Guidelines for Evaluating and Documenting Historic Aids to Navigation;*
- *Historic Lighthouse Preservation Handbook;*
- *IALA-AISM Lighthouse Conservation Manual;*
- Preservation Restriction (RIGL Title 42, Section 42-45-9); and
- The Secretary of the Interior's *Standards for Treatment of Historic Properties* (36 CFR 68);
- The Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61), as applicable;
- The Secretary of the Interior's *Standards for Treatment of Historic Properties* (36 CFR 68); and
- The Secretary of the Interior's *Professional Qualifications Standards* (36 CFR Part 61), as applicable.

4.1.5 Documentation

The following documentation would be provided for review by the Participating Parties should the Town of Aquinnah notify Revolution Wind that sufficient funds are available for the defined scope of restoration:

- Proposed scopes of work including draft text, project plans, and design specifications;
- Photographic and written documentation of existing conditions;
- Draft specifications and construction drawings to be distributed to the Participating Parties for review and comment;
- Final Specifications and construction drawings to be distributed to the Participating Parties for review and comment;
- Progress reports as requested by the Participating Parties to be distributed to the Participating Parties for review and comment; and
- A Summary Report of the work completed including photographs and as-built documentation to be distributed to the Participating Parties.

4.1.6 Funds and Accounting

Funding amounts are being determined in consultation with the consulting parties. Revolution Wind will deposit the stipulated funding in an escrow account in accordance with the timeline for implementation of mitigation measures identified in the MOA. If insufficient funds are available to complete the restoration project (as defined in the Town's report) within five years of the execution of the Memorandum of Agreement, the escrowed funds shall be released to the Town of Aquinnah for sole use in the planning and implementation of repair and restoration work on the Gay Head Lighthouse property, provided such repair and restoration efforts comply with the standards listed in Section 4.1.4 and are reviewed and approved by the Massachusetts Historical Commission prior to implementation. Release of the escrowed funds to the Town of Aquinnah in this manner shall satisfy Revolution Wind's obligations as they relate to mitigation for the adverse visual effect to the Gay Head Lighthouse.

5.0 IMPLEMENTATION

5.1 Timeline

The timeline for implementation of the mitigation measures is identified in the MOA.

5.2 Organizational Responsibilities

5.2.1 Bureau of Ocean Energy Management (BOEM)

BOEM remains responsible for making all federal decisions and determining compliance with Section 106. BOEM has reviewed this HPTP to ensure, at minimum, it includes the content required.

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- BOEM will be responsible for sharing the annual summary report with Participating Parties; and
- BOEM is responsible for consultation related to dispute resolution.

5.2.2 Revolution Wind, LLC

Revolution Wind will be responsible for the following:

- Considering the comments provided by the Participating Parties in the development of this HPTP;
- Contributing funding for mitigation measures, as specified in Section 4;
- Providing the Documentation in Section 4.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Revolution Wind will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

5.2.3 Massachusetts Historical Commission (MHC)

Should the Town of Aquinnah notify Revolution Wind that sufficient funding is available to complete the scope of restoration identified in the Town's report, the scope of work would be submitted to the MHC under the terms of the Preservation Restriction.

5.2.4 Massachusetts State Historic Preservation Officer

Should the Town of Aquinnah notify Revolution Wind that sufficient funding is available to complete the scope of restoration identified in the Town's report, the scope of work would be submitted to the Massachusetts State Historic Preservation Officer for compliance with the SOI Standards for Rehabilitation (36 CFR 68).

5.2.5 United States Coast Guard (USCG)

Should the Town of Aquinnah notify Revolution Wind that sufficient funding is available to complete the scope of restoration identified in the Town's report, the scope of work will be submitted to the USCG for review to confirm that it complies with the terms of the ATON Access Easement.

5.2.6 Wampanoag Tribe of Gay Head (Aquinnah)

The Wampanoag Tribe of Gay Head (Aquinnah) may, at their sole discretion, participate in consultations for the finalization of the HPTP in recognition of the traditional cultural and religious significance of the historic property to the Tribe.

5.2.7 Other Parties, as Appropriate

Revolution Wind does not anticipate additional consulting parties, should any be determined, this will be updated.

5.3 Participating Party Consultation

This HPTP was provided by Revolution Wind for review by Participating Parties to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation at the historic properties. Participating Parties were provided the opportunity for review and comment on the HPTP concurrent with BOEM's NEPA substitution schedule for the Project. This HPTP was further refined through informational and consultation meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.

6.0 REFERENCES

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ATTACHMENT 15 – REVOLUTION WIND EXPORT CABLE ONSHORE SUBSTATION AND INTERCONNECTION FACILITY, NORTH KINGSTOWN, RHODE ISLAND: PROCEDURES GUIDING THE DISCOVERY OF UNANTICIPATED CULTURAL RESOURCES AND HUMAN REMAINS

REDACTED

Public Archaeology Laboratory

Revolution Wind Export Cable Onshore Substation and Interconnection Facility

North Kingstown, Rhode Island

Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains

March 2023

Revolution Wind, LLC (Revolution Wind), a 50/50 joint venture between Orsted North America Inc. (Orsted NA) and Eversource Investment LLC (Eversource), proposes to construct and operate the Revolution Wind Farm Project (Project). The wind farm portion of the Project will be located in federal waters on the Outer Continental Shelf (OCS) in the designated Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-A 0486. The Project also includes up to two submarine export cables (RWEC), generally co-located within a single corridor through both federal waters and state waters of Rhode Island. The RWEC will make landfall at Quonset Point in North Kingstown, Rhode Island and will interconnect to an existing electric transmission system via the Davisville Substation, which is owned and operated by The Narragansett Electric Company (TNEC), located in North Kingstown, Rhode Island.

Revolution Wind is committed to the protection and preservation of cultural resources, in accordance with federal and state legislation, and is continuing that commitment as part of the onshore components of the Project. Revolution Wind recognizes that despite intensive cultural resource field investigations that were performed in the spring and summer of 2021 (Forrest and Waller 2021), it is nonetheless possible that potentially significant archaeological resources could be discovered during onshore Project construction, particularly during excavation. Revolution Wind also recognizes the requirement for compliance with federal, state, and municipal laws and regulations regarding the treatment of human remains, if any are discovered.

The procedures guiding the unanticipated discovery of cultural resources and human remains detailed herein ("Procedures") were developed on behalf of Revolution Wind and in consultation with the Rhode Island Historical Preservation and Heritage Commission (RIHPHC)/office of the State Historic Preservation Officer (SHPO), and federally recognized Native American tribes. These Procedures summarize the approach that Revolution Wind will use to address any unanticipated discoveries of archaeological resources or human remains during construction activities within the onshore portion of the Project's area of potential effect (APE).

The purpose of archaeological investigations is to determine the presence or absence of historic properties, including archaeological sites, within a project APE. These archaeological investigations are conducted in accordance with standards set forth in Section 106 of the National Historic Preservation Act of 1966, as amended, (54 USC 36018) and its implementing regulations (36 CFR 800), specifically, those procedures regarding "post-review discoveries" as outlined in 36 CFR 800.13. All work is undertaken pursuant to the Secretary of the Interior *Standards for Archaeology and Historic Preservation* (48 FR 44716-44742); the *Performance Standards and Guidelines for Archaeology in Rhode Island* (RIHPHC 2021); and the applicable laws and regulations pertaining to

the cultural resources and human remains including the Rhode Island Historical Cemeteries Act (Rhode Island General Law [R.I.G.L.] 23-18-11 *et seq*.) and the Antiquities Act of Rhode Island (R.I.G.L. 42–45.1).

Cultural Sensitivity Training

Revolution Wind acknowledges the sensitivity of the Project and surrounding area to potentially contain significant archaeological sites including Native American burials. The Public Archaeology Laboratory Inc. (PAL) Principal Investigator will give Revolution Wind and its contractor construction supervisors cultural and archaeological sensitivity training before the start of construction. The purpose of this training will be to review Revolution Wind's commitments to cultural resource compliance, review the general results of the archaeological investigations conducted within the onshore portions of the Project APE, and to provide an overview of the general cultural history of the area so that Revolution Wind and their contractors are aware of the types of archaeological resources that may be encountered during construction. The training program will outline the procedures that will be followed if a significant cultural resource or archaeological deposit is discovered during construction.

Notification Procedures

The identification of archaeological resources requires experience in recognizing and identifying potentially and significant archaeological sites and deposits. Revolution Wind is committed to having qualified archaeological monitors onsite during any ground disturbing construction activities. Revolution Wind will provide the Narragansett Indian Tribe, the Wampanoag Tribe of Gay Head/Aquinnah, Mashpee Wampanoag Tribe, the Mohegan Tribe, the Shinnecock Indian Nation, the Delaware Tribe of Indians, the Delaware Nation, and the Mashantucket Pequot Tribal Nation Tribal Historic Preservation Offices (THPOs) the opportunity to have their tribal monitors and cultural resource specialists onsite during archaeological or construction activities.

The following details the plan that Revolution Wind and their contractors will follow if archaeological resources or human remains are identified during construction.

During Construction

Archaeological Discoveries

1. Possible archaeological remains may be discovered by archaeological and tribal monitors during construction. If anyone including construction personnel identify suspected cultural or archaeological resources, the archaeologist on site should immediately be notified such that the qualified archaeological monitor can issue a stop-work order. If suspected artifacts or archaeological features are uncovered during a construction activity, qualified archaeological monitors will have the authority to stop work in the vicinity of the discovery until it can be determined if the materials are cultural and whether they represent a potentially significant site or archaeological deposit.

2. Archaeological monitors will immediately notify Revolution Wind's Environmental Compliance Manager. Notification will include the activity, specific work area including location/address and construction site (onshore substation, interconnection facility, export cable route, etc.), and provide digital photographs of the find.

3. Revolution Wind will issue a Stop Work order and direct the contractor to secure the area by flagging or fencing off the area of the archaeological discovery. Any discovery made on a weekend or overnight hours will be protected until all necessary parties have been notified of the discovery. The contractor will not resume work in the vicinity of the find until Revolution Wind's Environmental Compliance Manager has granted clearance.

4. PAL, in consultation with the onsite tribal monitors, will determine if the site is potentially significant and notify the RIHPHC and BOEM. Revolution Wind, their contractors, and PAL will work with the RIHPHC and the THPOs to develop and implement a site treatment plan.

5. Since the area of any potential discovery will have been partially disturbed by construction, the objective of cultural resource investigations will be to evaluate data quickly so that notifications are made and consultation can proceed. If archaeological investigations are required, Revolution Wind will inform the construction supervisor that no construction work in the immediate vicinity of the discovery can proceed until archaeological fieldwork is complete. The area will be flagged as being off-limits for work but will not be identified as an archaeological site *per se* to protect the resource(s).

6. The duration of any work stoppages will be contingent upon the significance of the identified cultural resource(s) and consultation among Revolution Wind, BOEM, RIHPHC, THPOs, and other parties to determine treatment to avoid, minimize, or mitigate any adverse effects to the identified site.

7. Once all treatment measures are complete, Revolution Wind will notify the contractor that construction work may proceed.

Human Remains Discoveries

If human remains are encountered during Project construction, they will be handled in accordance with the Rhode Island Historic Cemeteries Act (Appendix A) and North Kingstown Code of Ordinances, Part III, Chapter 12, Section 12–15 (Appendix B) and guided by the policy statement adopted by the Advisory Council on Historic Preservation ([Advisory Council]; see *Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects*, (Appendix C). Human remains, if present, are likely to be found in deeply buried or areas unimpacted by previous construction.

Human remains will be treated with the utmost dignity and respect at all times. Skeletal remains and/or associated artifacts will be left in place and not disturbed. No remains or associated materials will be collected or removed until all notifications have been made, appropriate consultation has taken place, and a plan of action has been determined. The procedures that will be followed in the event that human remains are discovered during Project construction are:

1. If PAL and/or tribal monitors identify human remains or possible human remains, all construction work in the vicinity of the find that could affect the integrity of the remains will cease. The remains will not be touched, moved, or further disturbed. PAL will notify Revolution Wind and with the assistance of onsite contractors take measures to ensure site security.

2. PAL/Revolution Wind will record the exact location of the find, its time of discovery, and will immediately notify the RI State Police and the Town of North Kingstown's Building Inspector in accordance with Rhode Island Historic Cemeteries Act and the North Kingstown Code of Ordinances. BOEM will also be notified as soon as practicable.

3. The Town will notify the Office of the State Medical Examiner (OSME). If the OSME determines the remains are less than 100 years old, then their treatment becomes the responsibility of the State Police and the Town. If the OSME determines the remains are more than 100 years old, the OCME will notify the RIHPHC State Archaeologist. The State Archaeologist, PAL and tribal monitors will determine if the remains are Native American.

4. The Town of North Kingstown, State Archaeologist, and if the remains are Native American, the THPOs will discuss whether there are prudent and feasible alternatives to protect the remains. The results of this consultation will be made in writing. If it is not possible to protect the remains, they may be excavated only under a permit issued by the RIHPHC after the review of a recovery plan that specifies a qualified research team, research design, and plan for the disposition of the remains consistent with the results of consultation and permission from the North Kingstown Town Council.

5. In all cases, due care will be taken in the excavation, transport, and storage of any remains to ensure their security and respectful treatment.

Applicable Laws

Federal

- Section 106 of the National Historic Preservation Act of 1966, as amended (54 USC 306108) and its implementing regulations “Protection of Historic Properties” (36 CFR part 800).

Rhode Island

- Rhode Island Historic Cemeteries Act: Rhode Island General Law 23-18-11 *et seq*. (Appendix A)

North Kingstown

- North Kingstown Code of Ordinances, Part III, Chapter 12, Section 12–15 (Appendix B)

LIST OF CONTACTS

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REDACTED

Bureau of Ocean Energy Management
Office of Renewable Energy Programs
45600 Woodland Road
VAM-OREP
Sterling, Virginia 20166
Contact: Laura Schnitzer, Archaeologist
Email: laura.schnitzer@boem.gov

Rhode Island Historical Preservation and Heritage Commission
150 Benefit Street
Providence, RI 02903-1209
Contact: Charlotte Taylor, Principal Archaeologist
Tel: (401) 222-4140
Email: Charlotte.Taylor@preservation.ri.gov

Jeffrey Emidy, Interim Executive Director, Deputy State Historic Preservation Officer
Tel: 401) 222-4134
Email: Jeffrey.Emidy@preservation.ri.gov

Rhode Island Department of Health/Office of the State Medical Examiners
48 Orms Street
Providence, RI 02904
Contact: Tel: 401-222-5500

Rhode Island State Police, Wickford Barracks
7875 Post Road
North Kingstown, RI 02852
Contact: Tel: (401) 444-1064

North Kingstown Police Department
8166 Post Road
North Kingstown, RI 02852
Contact: Tel: (401) 294-3316

The Public Archaeology Laboratory, Inc.
26 Main Street
Pawtucket, RI 02860
Contact: Deborah Cox

TRIBAL HISTORIC PRESERVATION OFFICES

Narragansett Indian Tribe Tribal Historic Preservation Office

[redacted]

Mashantucket Pequot Tribal Nation Tribal Historic Preservation Office

[redacted]

Mashpee Wampanoag Tribe Tribal Historic Preservation Office

[redacted]

Mohegan Tribe Tribal Historic Preservation Office

[redacted]

Shinnecock Indian Nation Tribal Historic Preservation Office

[redacted]

Wampanoag Tribe of Gay Head/Aquinnah Tribal Historic Preservation Office

[redacted]

Delaware Tribe of Indians Tribal Historic Preservation Office (PA)

[redacted]

Delaware Nation Tribal Historic Preservation Office

[redacted]

APPENDIX A: RHODE ISLAND GENERAL LAWS TITLE 23 - HEALTH AND SAFETY - CHAPTER 23-18 CEMETERIES

SECTION 23-18-11

§ 23-18-11 Regulation of excavation around cemeteries. – (a) The city or town council of any municipality may by ordinance prescribe standards regulating any construction or excavation in the city or town, when those standards are reasonably necessary to prevent deterioration of or damage to any cemetery or burial ground, or to any structures or gravesites located in any cemetery or burial ground. The rules and regulations shall not apply to the ordinary installation of gravesites or of monuments, markers, or mausoleums.

(b) No city or town shall permit construction, excavation or other ground disturbing activity within twenty-five feet (25') of a recorded historic cemetery except in compliance with the following provisions:

(1) The boundaries of the cemetery are adequately documented and there is no reason to believe additional graves exist outside the recorded cemetery and the proposed construction or excavation activity will not damage or destructively alter the historic cemetery through erosion, flooding, filling, or encroachment; or

(2) The proposed construction or excavation activity has been reviewed and approved by the city or town in accordance with § 23-18-11.1.

(c) Whenever an unmarked cemetery or human skeletal material is inadvertently located during any construction, excavation, or other ground disturbing activity, including archaeological excavation, the building official of the city or town where the unmarked cemetery or human skeletal material is located shall be immediately notified. The building official shall, in turn, notify the state medical examiner and the Rhode Island historical preservation and heritage commission if the grave, cemetery, or skeletal material appears to be historic. Prior to the continuation of any further construction, excavation, or other ground disturbing activity, and unless the provisions of § 23-18-7 shall apply, the property owner shall undertake an archaeological investigation to determine the boundaries of the unmarked cemetery and shall so inform the building official. In the event that the cemetery meets the criteria for a historic cemetery, the building official shall so advise the recorder of deeds of the city or town who shall record and register the cemetery in accordance with the provisions of § 23-18-10.1.

SECTION 23-18-11.1

§ 23-18-11.1 Permit required to alter or remove historic cemetery – Powers of city or town council – Appeal. – (a) Before an agency or a property owner may authorize or commence alteration or removal of any historic cemetery, the agency or owner must apply to the city or town council where the historic cemetery is located for a permit to alter or remove. The city or town council shall prescribe by ordinance standards to regulate the alteration or removal of any historic cemetery within its municipal limits, but shall at a minimum provide that:

(1) The applicant will examine all alternatives, and demonstrate that no prudent or feasible alternative to the proposed alteration is possible;

(2) The city or town provide for notification and participation in the permitting process of parties which may be interested in the proposed alteration or removal by virtue of their status as a governmental health or historic preservation authority, or as a private or nonprofit historical, genealogical or civic

organization, or, in the case of American Indian cemeteries and burial grounds, the appropriate tribal organization; and
(3) The city or town provide for due consideration of the rights of descendants in any application to substantially alter or remove a historic cemetery.

(b) When an application for alteration or removal of a historic cemetery has been made and the boundary is unknown or in doubt, the city or town may require that the applicant, at its own expense, conduct an archaeological investigation to determine the actual size of the cemetery prior to final consideration by the city or town of the application to alter or remove.

(c) After due consideration, the city or town council may grant the application to alter or remove the historic cemetery in whole or in part, under the supervision of an archaeologist and with any restrictions and stipulations that it deems necessary to effectuate the purposes of this section, or deny the application in its entirety. Any person or persons aggrieved by a decision of the city or town council shall have the right of appeal concerning the decision to the superior court and from the superior court to the supreme court by writ of certiorari.

(d) Nothing in this section shall be deemed to contravene the authority of municipal bodies under § 45-5-12 to hold, manage, repair, or maintain any neglected burial ground.

SECTION 23-18-11.2

§ 23-18-11.2 Regulation of excavation – Removal and transfer of graves and cemeteries – Penalties. – (a) The city or town council of any municipality may by ordinance prescribe standards, in addition to those required by § 23-18-10, regulating the excavation, removal, and transfer of any graves, grave sites, and cemeteries in the municipality so as to provide an accurate record of any activity and to ensure that any remains removed are properly re-interred and the location of the new interment is recorded. In the absence of a local ordinance establishing standards, regulations adopted by the historical preservation and heritage commission shall govern. A report of any grave removal and relocation from one cemetery or burial ground to another shall be filed in the clerk's office for each municipality and shall, to the extent permitted by law, be available for public inspection. In instances where there is a headstone or other burial marker identifying the original grave, the headstone or burial marker shall be erected on the site to which any remains are transferred.

(b) To the extent not promulgated pursuant to § 23-3-5.1, the state registrar of vital records shall promulgate regulations to establish a system of record-keeping to allow descendants to locate their ancestors' graves in Rhode Island.

(c) Any person convicted of violating this section shall be subject to a fine of not more than one thousand dollars ($1,000) and such fine shall be deemed civil in nature and not a criminal penalty.

(d) The provisions of this section shall be considered to be in addition to any other penalties provided for desecration or vandalism to cemeteries.

SECTION 23-18-13

§ 23-18-13 Notification of historical preservation and heritage commission. – The historical preservation and heritage commission shall be notified whenever an ancient burial place contains or is suspected to contain the remains of one or more persons.

APPENDIX B: NORTH KINGSTOWN CODE OF ORDINANCES, PART III, CHAPTER 12, SECTION 12-15 – HISTORICAL AND ARCHAEOLOGICAL BURIAL SITES

a) *Authority*. In compliance with RIGL 1956, § 23-18-1 et seq., the town adopts this section to govern the preservation of historic and archaeological burial sites in the town.
b) *Purpose.* The town council recognizes that historic and archeological gravesites possess archaeological and scientific value and are often of great artistic, cultural and religious significance and represent for all cultures a respect for the sanctity of human life. It is, therefore, the policy of the town that marked or unmarked historic cemeteries are to be preserved and are not to be altered or removed except as provided for in this section.
c) *Definitions*. The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:

Applicant means the owner of the land on which an archeological burial site or family cemetery is located for which a permit must be sought for alteration or removal.

Archaeological burial site means an area of land which has been designated and/or used for the interment of human remains in the prehistoric or distant past. Archaeological burial sites may include American Indian or other ethnic groupings.

Family cemetery means a historic cemetery which is not associated with a specific religious organization but which is the site of burial for persons related by blood, marriage or household.

Historic cemetery means any tract of land which has been used for a period in excess of 100 years as a burial place, whether or not marked with a historic marker or gravestone, including but not limited to ancient burial places known to contain the remains of one or more American Indians. For the purposes of this section, the term "historic cemetery" also includes an area 25 feet in width around the perimeter of the cemetery.

Human remains means any parts or remains of deceased persons including skeletal remains or cremated ashes.

Grave means any site where human remains have been purposefully interred. The term also includes gravemarkers, funerary objects and associated cultural remains and artifacts. A grave includes mausoleums, crypts or other structures designed to house human remains.

Least disruptive means means a means of construction, excavation, removal or other activity which, in the opinion of the state historic preservation commission, has the least overall destructive impact on the grave, human remains or cemetery.

Owner means the owner of a parcel of land.

Religious cemetery means any cemetery owned or maintained by a religious organization.

Religious organization means the organization representing the adherents of any religious society.

Site alteration plan means a document showing in written text and by illustration the proposed alteration of a historic cemetery, an archaeological burial site or a family cemetery, including detailed specifications for alteration, removal and reinterment of human remains.

Town means the town, its agents or its officers.

d) Procedures. Procedures regarding disturbance of historic cemeteries or archaeological burial sites shall be as follows:

1) It shall be unlawful for any person to disturb, disrupt, excavate, deposit, fill in or on, remove or destroy gravemarkers, burial objects or buried human remains or conduct any other activities that would damage or diminish the integrity of any historic cemetery or archaeological burial site or family cemetery without first obtaining a permit to alter or remove such historic cemetery, archaeological burial site or family cemetery from the town council.

2) Once a discovery of a previously unknown burial site is made, the owner or contractor shall immediately notify the building inspector who in turn shall contact the state medical examiner and state historical preservation commission pursuant to RIGL 1956, § 23-18-1 et seq.

3) The town shall require the cessation of construction activities pending preliminary verification of the property as a human burial site by the state medical examiner or historic preservation commission. If the site is verified as a human burial site, work within 25 feet of the site shall be halted unless or until a permit to alter or remove is issued by the town pursuant to this section.

4) The owner shall be required, at the owner's expense, to conduct an archaeological investigation of the area to establish the boundaries of the cemetery/burial site using the least disruptive means feasible. The least disruptive means shall be determined by the town through the town's consultation with the state historic preservation commission (RIHPC). A survey report shall be produced incorporating the findings of the investigation in test and graphic form.

5) The applicant shall then submit the report and a detailed engineering plan, as required and identified in subsection (d)(8)a of this section of the proposed construction project and all other proposed activities on the property that in any manner might lead to or necessitate any disruption of the cemetery/burial site.

6) The applicant shall also submit a detailed site alteration plan proposal of the extent and method of removal of human remains and a reburial plan in text and drawing of the new gravesite.

7) The town council may issue a permit to allow the alteration or removal of historic cemeteries, archaeological cemeteries or family cemeteries only after concluding, based on evidence submitted to the council at a public hearing, that all alternatives to the proposed activity have been examined and that no prudent and feasible alternative to the proposed activity exists or that the alteration serves the interests, health, welfare and safety of the public and is not solely for commercial expediency.

8) The applicant shall submit the following to the town council prior to the consideration of any application for a permit to remove and/or alter a historic cemetery or an archaeological burial site:

   a. Detailed site plans drawn to scale by a licensed professional registered land surveyor or professional engineer, as applicable, at a minimum scale of 1″=50′, showing the boundaries of the property in question, topographical contour intervals of no more than one foot, a surveyed boundary of the cemetery and a setback area of no less than 25 feet, and a proposed plan of all improvements proposed on the site that would necessitate disturbance of the cemetery.

b. If known, a written description of the cemetery, its age and condition, and historical importance; whether the cemetery is religious, family, organization, publicly owned or other kind of cemetery; a listing of names and vital dates of those interred as may be determined from gravemarkers on site; and a cemetery plan indicating position of graves and to the extent possible the identities of those interred.

c. A detailed site alteration plan indicating the extent of disruption of the cemetery, methods of construction or removal of human remains, reburial plan, including in text and illustration the relocation of graves.

d. If a family cemetery, a genealogical study to identify whether decedents of the families of the interred still reside in the state.

e. If a religious cemetery, a listing of the religious organization that owns or maintains the cemetery.

f. Any further information and study the town council deems necessary to complete its consideration of the request to alter a cemetery in compliance with RIGL 1956, § 23-18-1 et seq.

e) *Hearing.* A hearing shall be conducted in accordance with the following:

1) *Public notice*. Once the required documents are submitted by an applicant and published, the town council shall set the date for a public hearing. Notice of the date, time and location of the public hearing shall be at the applicant's expense, in a local newspaper, for a period of not less than two weeks prior to the hearing. The state historic preservation commission shall be notified not less than two weeks prior to the scheduled hearing, and an advisory opinion shall be requested by pertinent town staff.

2) *Notice to interested parties.* Notice to interested parties shall be given as follows:

a. For archaeological burials and historic Native American graves, the town shall cause the tribal council of the Narragansett Tribe to be notified by regular mail of the subject, date and time of the scheduled hearing.

b. If an application involves the cemetery of an extant religious society, such society shall be so notified by regular mail of the scheduled hearing.

c. If the application involves a family cemetery, the interred of which have living lineal descendants, the applicant, at the applicant's expense, shall make all reasonable efforts to notify the lineal descendants as to the scheduled hearing, which efforts may include sending notice to the descendants via first class mail or publication of the notice in a newspaper of statewide circulation at least once per week for two successive weeks prior to the scheduled hearing.

3) *Burden of proof.* At the hearing, the applicant shall prove to the satisfaction of the town council that:

a. The applicant has examined all possible alternatives and conclusively demonstrated that no prudent and feasible alternative to the proposed alteration is possible; or

b. The proposed alteration serves the interests of health, welfare and safety of the public and is not solely for commercial expediency.

f) *Final action.* The town council shall conduct a public hearing on the proposed project and shall render a decision approving, denying or approving with reasonable conditions the proposed site alteration plan and may set other conditions and/or requirements necessary to carry out the purposes of RIGL 1956, § 23-18-1 et seq.

g) *Legal status.* Nothing in this section shall be construed to prohibit the routine maintenance and repair of historical gravesites or the use of historic cemeteries as places of interment, nor shall it be construed to preclude the town boards or commissions or agents from otherwise acting within their authority to regulate and protect historical and archaeological cemeteries.

h) *Severability.* If any subsection, clause, provision or portion of this section shall be held invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity or constitutionality of any other subsection, clause, provision or portion of this section.

i) *Appeal.* Any person aggrieved by the decision of the town council shall have a right to appeal the decision to the superior court pursuant to RIGL 1956, § 23-18-11.1.

(Ord. No. 94-25, § 1, 11-14-1994)

Cross reference— Historical zoning, § 21-331 et seq.

State Law reference— Historical and archaeological burial sites, RIGL 1956, § 23-18-1 et seq.; historic burial sites, RIGL 1956, § 23-18-10.1; historic preservation, RIGL 1956, § 42-45-1 et seq.

APPENDIX B: ADVISORY COUNCIL ON HISTORIC PRESERVATION POLICY STATEMENT REGARDING TREATMENT OF BURIAL SITES, HUMAN REMAINS AND FUNERARY OBJECTS

REDACTED

Preserving America s Heritage

ADVISORY COUNCIL ON HISTORIC PRESERVATION

POLICY STATEMENT
REGARDING
TREATMENT OF BURIAL SITES, HUMAN REMAINS AND FUNERARY OBJECTS

Preamble: This policy offers leadership in resolving how to treat burial sites, human remains, and funerary objects in a respectful and sensitive manner while acknowledging public interest in the past. As such, this policy is designed to guide federal agencies in making decisions about the identification and treatment of burial sites, human remains, and funerary objects encountered in the Section 106 process, in those instances where federal or state law **does not prescribe a course of action**.

This policy applies to all federal agencies with undertakings that are subject to review under Section 106 of the National Historic Preservation Act (NHPA; 16 U.S.C. § 470f), and its implementing regulations (36 CFR Part 800). To be considered under Section 106, the burial site must be or be a part of a historic property, meaning that it is listed, or eligible for listing, in the National Register of Historic Places.

The Advisory Council on Historic Preservation (ACHP) encourages federal agencies to apply this policy throughout the Section 106 process, including during the identification of those historic properties. In order to identify historic properties, federal agencies must assess the historic significance of burial sites and apply the National Register criteria to determine whether a property is eligible. Burial sites may have several possible areas of significance, such as those that relate to religious and cultural significance, as well as those that relate to scientific significance that can provide important information about the past. This policy does not proscribe any area of significance for burial sites and recognizes that the assessment must be completed on a case-by-case basis through consultation.

The policy is not bound by geography, ethnicity, nationality, or religious belief, but applies to the treatment of all burial sites, human remains, and funerary objects encountered in the Section 106 process, as the treatment and disposition of these sites, remains, and objects are a human rights concern shared by all.

This policy also recognizes the unique legal relationship between the federal government and tribal governments as set forth in the Constitution of the United States, treaties, statutes and court decisions, and acknowledges that, frequently, the remains encountered in Section 106 review are of significance to Indian tribes.

Section 106 requires agencies to seek agreement with consulting parties on measures to avoid, minimize, or mitigate adverse effects to historic properties. Accordingly, and consistent with Section 106, this policy does not recommend a specific outcome from the consultation process. Rather, it focuses on issues and perspectives that federal agencies ought to consider when making their Section 106 decisions. In many cases, federal agencies will be bound by other applicable federal, tribal, state, or local laws that do

prescribe a specific outcome, such as the Native American Graves Protection and Repatriation Act (NAGPRA). The federal agency must identify and follow applicable laws and implement any prescribed outcomes.

For undertakings on federal and tribal land that encounter Native American or Native Hawaiian human remains and funerary objects, NAGPRA applies. NHPA and NAGPRA are separate and distinct laws, with separate and distinct implementing regulations and categories of parties that must be consulted.[1] Compliance with one of these laws does not mean or equal compliance with the other. Implementation of this policy and its principles does not, in any way, change, modify, detract or add to NAGPRA or other applicable laws.

Principles: When burial sites, human remains, or funerary objects will be or are likely to be encountered in the course of Section 106 review, a federal agency should adhere to the following principles:

Principle 1: Participants in the Section 106 process should treat all burial sites, human remains and funerary objects with dignity and respect.

Principle 2: Only through consultation, which is the early and meaningful exchange of information, can a federal agency make an informed and defensible decision about the treatment of burial sites, human remains, and funerary objects.

Principle 3: Native Americans are descendants of original occupants of this country. Accordingly, in making decisions, federal agencies should be informed by and utilize the special expertise of Indian tribes and Native Hawaiian organizations in the documentation and treatment of their ancestors.

Principle 4: Burial sites, human remains and funerary objects should not be knowingly disturbed unless absolutely necessary, and only after the federal agency has consulted and fully considered avoidance of impact and whether it is feasible to preserve them in place.

Principle 5: When human remains or funerary objects must be disinterred, they should be removed carefully, respectfully, and in a manner developed in consultation.

Principle 6: The federal agency is ultimately responsible for making decisions regarding avoidance of impact to or treatment of burial sites, human remains, and funerary objects. In reaching its decisions, the federal agency must comply with applicable federal, tribal, state, or local laws**.**

Principle 7: Through consultation, federal agencies should develop and implement plans for the treatment of burial sites, human remains, and funerary objects that may be inadvertently discovered.

Principle 8: In cases where the disposition of human remains and funerary objects is not legally prescribed, federal agencies should proceed following a hierarchy that begins with the rights of lineal descendants, and if none, then the descendant community, which may include Indian tribes and Native Hawaiian organizations.

[1] The ACHP's publication *Consulting with Indian Tribes in the Section 106 Process* and the National Association of Tribal Historic Preservation Officers' publication *Tribal Consultation: Best Practices in Historic Preservation* provide additional guidance on this matter.

DISCUSSION:

Principle 1: Participants in the Section 106 process should treat all burial sites, human remains and funerary objects with dignity and respect.

Because the presence of human remains and funerary objects gives a historic property special importance as a burial site or cemetery, federal agencies need to consider fully the values associated with such sites. When working with human remains, the federal agency should maintain an appropriate deference for the dead and the funerary objects associated with them, and demonstrate respect for the customs and beliefs of those who may be descended from them.

Through consultation with descendants, culturally affiliated groups, descendant communities, and other parties, federal agencies should discuss and reach agreement on what constitutes respectful treatment.

Principle 2: Only through consultation, which is the early and meaningful exchange of information, can a federal agency make an informed and defensible decision about the treatment of burial sites, human remains, and funerary objects.

Consultation is the hallmark of the Section 106 process. Federal agencies must make a "reasonable and good faith" effort to identify consulting parties and begin consultation early in project planning, after the federal agency determines it has an undertaking and prior to making decisions about project design, location, or scope.

The NHPA, the ACHP's regulations, and Presidential Executive Orders set out basic steps, standards, and criteria in the consultation process, including:

- Federal agencies have an obligation to seek out all consulting parties [36 CFR § 800.2(a)(4)], including the State Historic Preservation Officer (SHPO)/Tribal Historic Preservation Officer (THPO) [36 CFR § 800.3(c)].

- Federal agencies must acknowledge the sovereign status of Indian tribes [36 CFR § 800.2(c)(2)(ii)]. Federal agencies are required to consult with Indian tribes on a government-to-government basis in recognition of the unique legal relationship between federal and tribal governments, as set forth in the Constitution of the United States, treaties, statutes, court decisions, and executive orders and memoranda.

- Consultation on a government-to-government level with Indian tribes cannot be delegated to non-federal entities, such as applicants and contractors.

- Federal agencies should solicit tribal views in a manner that is sensitive to the governmental structures of the tribes, recognizing their desire to keep certain kinds of information confidential, and that tribal lines of communication may argue for federal agencies to provide extra time for the exchange of information.

- Properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined eligible for inclusion on the National Register [16 U.S.C. § 470a(d)(6)(A)], and federal agencies must consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to such historic properties [16 U.S.C. § 470a(d)(6)(B) and 36 CFR § 800.2(c)(2)(ii)(D)].

Principle 3: Native Americans are descendants of original occupants of this country. Accordingly, in making decisions, federal agencies should be informed by and utilize the special expertise of Indian tribes and Native Hawaiian organizations in the documentation and treatment of their ancestors.

This principle reiterates existing legal requirements found in federal law, regulation and executive orders, and is consistent with positions that the ACHP has taken over the years to facilitate enfranchisement and promote broad participation in the Section 106 process. Federal agencies must consult with Indian tribes on a government-to-government basis because they are sovereign nations.

Indian tribes and Native Hawaiian organizations bring a special perspective on how a property possesses religious and cultural significance to them. Accordingly, federal agencies should utilize their expertise about, and religious and cultural connection to, burial sites, human remains, and associated funerary objects to inform decision-making in the Section 106 process.

Principle 4: Burial sites, human remains and funerary objects should not be knowingly disturbed unless absolutely necessary, and only after the federal agency has consulted and fully considered avoidance of impact and whether it is feasible to preserve them in place.

As a matter of practice, federal agencies should avoid impacting burial sites, human remains, and funerary objects as they carry out their undertakings. If impact to the burial site can be avoided, this policy does not compel federal agencies to remove human remains or funerary objects just so they can be documented.

As this policy advocates, federal agencies should always plan to avoid burial sites, human remains, and funerary objects altogether. When a federal agency determines, based on consultation with Section 106 participants, that avoidance of impact is not appropriate, the agency should minimize disturbance to such sites, remains, and objects. Accordingly, removal of human remains or funerary objects should occur only when other alternatives have been considered and rejected.

When a federal agency determines, based on consultation with Section 106 participants, that avoidance of impact is not appropriate, the agency should then consider any active steps it may take to preserve the burial site in place, perhaps through the intentional covering of the affected area, placement of markers, or granting of restrictive or other legal protections. In many cases, preservation in place may mean that, to the extent allowed by law, the locations of burial sites, human remains, and funerary objects should not be disclosed publicly. Alternatively and consistent with the Section 106 regulations [36 CFR § 800.5(a)(2)(vi)], natural deterioration of the remains may be the acceptable or preferred outcome of the consultation process.

Principle 5: When human remains or funerary objects must be disinterred, they should be removed carefully, respectfully, and in a manner developed in consultation.

When the federal agency decides that human remains or funerary objects must be disturbed, they should be removed respectfully and dealt with according to the plan developed by the federal agency in consultation. "Careful" disinterment means that those doing the work should have, or be supervised by people having, appropriate expertise in techniques for recognizing and disinterring human remains.

This policy does not endorse any specific treatment. However, federal agencies must make a reasonable and good faith effort to seek agreement through consultation before making its decision about how human remains and/or funerary objects shall be treated.

The plan for the disinterment and treatment of human remains and/or funerary objects should be negotiated by the federal agency during consultation on a case-by-case basis. However, the plan should provide for an accurate accounting of federal implementation. Depending on agreements reached through the Section 106 consultation process, disinterment may or may not include field recordation. In some instances, such recordation may be so abhorrent to consulting parties that the federal agency may decide it is inappropriate to carry it out. When dealing with Indian tribes, the federal agency must comply with its legal responsibilities regarding tribal consultation, including government-to-government and trust responsibilities, before concluding that human remains or funerary objects must be disinterred.

Principle 6: The federal agency is ultimately responsible for making decisions regarding avoidance of impact to or treatment of burial sites, human remains, and funerary objects. In reaching its decisions, the federal agency must comply with applicable federal, tribal, state, or local laws.

Federal agencies are responsible for making final decisions in the Section 106 process [36 CFR § 800.2(a)]. The consultation and documentation that are appropriate and necessary to inform and support federal agency decisions in the Section 106 process are set forth in the ACHP's regulations [36 CFR Part 800].

Other laws, however, may affect federal decision-making regarding the treatment of burial sites human remains, and funerary objects. Undertakings located on federal or tribal lands, for example, are subject to the provisions of NAGPRA and the Archaeological Resources Protection Act (ARPA). When burial sites, human remains, or funerary objects are encountered on state and private lands, federal agencies must identify and follow state law when it applies. Section 106 agreement documents should take into account the requirements of any of these applicable laws.

Principle 7: Through consultation, federal agencies should develop and implement plans for the treatment of burial sites, human remains, and funerary objects that may be inadvertently discovered.

Encountering burial sites, human remains, or funerary objects during the initial efforts to identify historic properties is not unheard of. Accordingly, the federal agency must determine the scope of the identification effort in consultation with the SHPO/THPO, Indian tribes and Native Hawaiian

organizations, and others before any archaeological testing has begun [36 CFR § 800.4(a)] to ensure the full consideration of avoidance of impact to burial sites, human remains, and funerary objects.

The ACHP's regulations provide federal agencies with the preferred option of reaching an agreement ahead of time to govern the actions to be taken when historic properties are discovered during the implementation of an undertaking. In the absence of prior planning, when the undertaking has been approved and construction has begun, the ACHP's post-review discovery provision [36 CFR § 800.13] requires the federal agency to carry out several actions:

(1) make reasonable efforts to avoid, minimize, or mitigate adverse effects to such discovered historic properties;
(2) notify consulting parties (including Indian tribes and Native Hawaiian organizations that might attach religious and cultural significance to the affected property) and the ACHP within 48 hours of the agency's proposed course of action;
(3) take into account the recommendations received; and then
(4) carry out appropriate actions.

NAGPRA prescribes a specific course of action when Native American and Native Hawaiian human remains and funerary objects are discovered on federal or tribal lands in the absence of a plan—cessation of the activity, protection of the material, notification of various parties, consultation on a course of action and its implementation, and then continuation of the activity. However, adherence to the plan under Principle 5 would cause new discoveries to be considered "intentional excavations" under NAGPRA because a plan has already been developed, and can be immediately implemented. Agencies then could avoid the otherwise mandated 30 day cessation of work for "inadvertent discoveries."

Principle 8: In cases where the disposition of human remains and funerary objects is not legally prescribed, federal agencies should proceed following a hierarchy that begins with the rights of lineal descendants, and if none, then the descendant community, which may include Indian tribes and Native Hawaiian organizations.

Under the ACHP's regulations, "descendants" are not identified as consulting parties by right. However, federal agencies shall consult with Indian tribes and Native Hawaiian organizations that attach religious and cultural significance to burial sites, human remains and associated funerary objects, and be cognizant of their expertise in, and religious and cultural connection to, them. In addition, federal agencies should recognize a biological or cultural relationship and invite that individual or community to be a consulting party [36 CFR § 800.3(f)(3)].

When federal or state law does not direct disposition of human remains or funerary objects, or when there is disagreement among claimants, the process set out in NAGPRA may be instructive. In NAGPRA, the "ownership or control" of human remains and associated funerary objects lies with the following in descending order: specific lineal descendants; then tribe on whose tribal lands the items were discovered; then tribe with the closest cultural affiliation; and then tribe aboriginally occupying the land, or with the closest "cultural relationship" to the material.

Definitions Used for the Principles

- **Burial Site**: Any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as a part of the death rite or ceremony of a culture, individual human remains are deposited [25 U.S.C. 3001.2(1)].
- **Consultation:** The process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 review process [36 CFR § 800.16(f)].
- **Consulting parties:** Persons or groups the federal agency consults with during the Section 106 process. They may include the State Historic Preservation Officer; the Tribal Historic Preservation Officer; Indian tribes and Native Hawaiian organizations; representatives of local governments; applicants for federal assistance, permits, licenses, and other approvals; and/or any additional consulting parties [based on 36 CFR § 800.2(c)]. Additional consulting parties may include individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties [36 CFR § 800.2(c)(6)].
- **Disturbance:** Disturbance of burial sites that are listed in or eligible for listing in the National Register of Historic Places will constitute an adverse effect under Section 106. An adverse effect occurs when "an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, setting, materials, workmanship, feeling, or association" [36 CFR § 800.5(a)(1)].
- **Federal land:** Lands under a federal agency's control. Mere federal funding or permitting of a project does not turn an otherwise non-federal land into federal land (see *Abenaki Nation of Mississquoi* v. *Hughes*, 805 F. Supp. 234 (D. Vt. 1992), aff'd, 990 F. 2d 729 (2d Cir. 1993) (where the court found that a Clean Water Act permit issued by the US Army Corps of Engineers did not place the relevant land under federal "control" for NAGPRA purposes).
- **Funerary objects:** "items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally at the time of death or later with or near individual human remains" [25 U.S.C. 3001(3)(B)].
- **Historic property:** "Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. It includes artifacts, records, and remains that are related to and located within such properties, and it includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register of Historic Places criteria" [36 CFR § 800.16(1)].
- **Human remains:** The physical remains of a human body. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets [see 43 CFR § 10.2(d)(1)].
- **Indian Tribe**: "An Indian tribe, band, nation, or other organized group or community, including a Native village, Regional Corporation or Village Corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act [43 U.S.C. 1602], which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians" [36 CFR § 800.16(m)].
- **Native American:** Of, or relating to, a tribe, people, or culture that is indigenous to the United States [25 U.S.C. 3001 (9)]. Of, or relating to, a tribe, people, or culture indigenous to the Unites States, including Alaska and Hawaii [43 CFR 10.2(d)].

- **Native Hawaiian:** Any individual who is a descendant of the aboriginal people who, prior to 1778, occupied and exercised sovereignty in the area that now constitutes the state of Hawaii [36 CFR § 800.16(s)(2)].
- **Native Hawaiian Organization:** Any organization which serves and represents the interests of Native Hawaiians; has as a primary and stated purpose the provision of services to Native Hawaiians; and has demonstrated expertise in aspects of historic preservation that are significant to Native Hawaiians [36 CFR § 800.16(s)].
- **Policy statement:** A formal statement, endorsed by the full ACHP membership, representing the membership's collective thinking about what to consider in reaching decisions about select issues, in this case, human remains and funerary objects encountered in undertakings on federal, tribal, state, or private lands. Such statements do not have the binding force of law.
- **Preservation in place:** Taking active steps to ensure the preservation of a property.
- **Protection of Historic Properties**: Regulations [36 CFR Part 800] implementing Section 106 of the National Historic Preservation Act.
- **Section 106**: That part of the National Historic Preservation Act which establishes a federal responsibility to take into account the effects of undertakings on historic properties and to provide the Advisory Council on Historic Preservation a reasonable opportunity to comment with regard to such action.
- **State Historic Preservation Officer:** The official appointed or designated pursuant to Section 101(b)(1) of NHPA to administer the state historic preservation program.
- **Tribal Historic Preservation Officer**: The official appointed by the tribe's chief governing authority or designated by a tribal ordinance or preservation program who has assumed the responsibilities of the SHPO for purposes of Section 106 compliance on tribal lands in accordance with Section 101(d)(2) of NHPA.
- **Treatment:** Under Section 106, "treatments" are measures developed and implemented through Section 106 agreement documents to avoid, minimize, or mitigate adverse effects to historic properties.

Acronyms Used for the Policy Statement
- **ACHP**: Advisory Council on Historic Preservation.
- **ARPA**: Archaeological Resources Protection Act [16 U.S.C. 470aa-mm].
- **NHPA**: National Historic Preservation Act [16 U.S.C. § 470f].
- **NAGPRA**: The Native American Graves Protection and Repatriation Act [25 U.S.C. 3001 et seq].
- **SHPO**: State Historic Preservation Officer
- **THPO**: Tribal Historic Preservation Officer

[The members of the Advisory Council on Historic Preservation unanimously adopted this policy on February 23, 2007]

ATTACHMENT 16 – UNANTICIPATED DISCOVERIES PLAN FOR SUBMERGED ARCHAEOLOGICAL SITES, HISTORIC PROPERTIES, AND CULTURAL RESOURCES INCLUDING HUMAN REMAINS: REVOLUTION WIND FARM FOR LEASE AREA OCS A-0486 CONSTRUCTION AND OPERATIONS PLAN

REDACTED

Unanticipated Discoveries Plan for Submerged Archaeological sites, Historic Properties, and Cultural Resources including Human Remains, Revolution Wind Farm for Lease Area OCS A-0486 Construction and Operations Plan

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SEARCH

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March 2023

INTRODUCTION

Revolution Wind LLC (Revolution Wind) proposes to construct and operate the Revolution Wind Farm Project (Project) within the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS A-0486 (Lease Area). The Project consists of the Revolution Wind Farm (RWF) and the Revolution Wind Farm Export Cable (RWEC) route, which traverses federal and state waters. The RWEC has a proposed landfall near Quonset Point in North Kingstown, Rhode Island. Revolution Wind has submitted a Construction and Operations Plan (COP) for the Project to BOEM to support the development, operation, and eventual decommissioning of Project infrastructure, including offshore wind turbines, offshore substations, array cables, substation interconnector cables, and offshore export cables. SEARCH provided technical expertise to Revolution Wind's environmental consultant, VHB Engineering (VHB), by providing a Qualified Marine Archaeologist (QMA) in accordance with Lease Agreement Stipulation Addendum C Section 2.1.1.2.

SEARCH developed this Unanticipated Discoveries Plan (UDP) to assist Revolution Wind and its contractors to preserve and protect potential cultural resources from adverse impacts caused by Project construction, operation and maintenance, and decommissioning activities. The UDP sets forth guidelines and procedures to be used in the event potential submerged cultural resource are encountered during bottom disturbing activities and assists Revolution Wind in its compliance with Section 106 of the National Historic Preservation Act (NHPA) (Title 54 U.S.C. § 306108), Native American Graves Protection and Repatriation Act (Title 25 U.S.C. § 3001 et seg.), Lease OCS A-0486 Lease Stipulations, and other relevant state and local laws as applicable. This UDP is subject to revisions based on consultations with interested parties pursuant to Section 106 of the National Historic Preservation Act or the Act's implementing regulations at 36 CFR Part 800.

ROLES AND RESPONSIBILITIES

Implementation of the provisions and procedures in the UDP will require the coordinated efforts of Revolution Wind and their contractors during all construction, operations and maintenance, and decommissioning activities with the potential to impact the seafloor. The following sections identify key participants in the UDP and outlines their roles and responsibilities.

REVOLUTION WIND

Implementation of the provisions and procedures outlined in this plan is ultimately the responsibility of Revolution Wind or its designee, who will be responsible for the following:

- Ensuring procedures and policies outlined in the UDP and UDP training materials are implemented;
- Identifying a responsible party within Revolution Wind tasked with overseeing implementation of the UDP during all project and contractor activities;
- Developing cultural resource and UDP awareness training programs for all project staff and contractors;
- Requiring all project and contractor staff complete cultural resource and UDP awareness training;
- Coordinating and facilitating communication between the QMA, project staff, and contractors if a potential cultural resource is encountered during project activities; and
- Participating in and/or facilitating consultations with state and federal agencies (BOEM, Naval History and Heritage Command [NHHC], Rhode Island Historical Preservation & Heritage Commission [RIHPHC], etc…), federally recognized Tribes'/Tribal Nations' Tribal Historic Preservation Offices (THPOs), and other consulting parties, as appropriate.

QUALIFIED MARINE ARCHAEOLOGIST

Revolution Wind will retain the services of a QMA to provide cultural resource advisory services during implementation of the UDP. The QMA will be responsible for the following:

- Assist Revolution Wind with the development and implementation of the procedures outlined in the UDP;
- Assist Revolution Wind in developing a cultural resource and UDP awareness training program and informational graphic;
- Review and document potential submerged cultural resources identified by the project and/or contractor staff;

- Assist Revolution Wind with the Section 106 consultation process that may arise as a result of an unanticipated submerged cultural resource; and
- Conduct archaeological investigation of unanticipated submerged cultural resources following coordination with appropriate consulting parties.

TRAINING AND ORIENTATION

As described in the previous section, Revolution Wind will be responsible for ensuring Project and contractor staff complete a cultural resources and UDP awareness training program prior to the start of bottom disturbing activities. The training will be sufficient to allow Project and contractor staff to identify common types of marine cultural resources and implement the UDP procedures. The training will be delivered as a standalone training and/or combined with the Project's or contractors' general health and safety (H&S) or environment, health, and safety (EHS) induction training.

The training program will include, but not be limited to, the following elements:

- A review of applicable state and federal cultural resource laws and regulations;
- Characteristics of common types of submerged cultural resources found on the Atlantic Outer Continental Shelf (e.g. wooden shipwrecks, metal shipwrecks, downed aircraft, post-Contact artifacts, pre-Contact artifacts, bone and faunal remains, etc.);
- How to identify potential submerged cultural resources during bottom disturbing activities; and
- Procedures to follow and parties to notify if potential submerged cultural resources/materials are encountered during project activities.

The SEARCH QMA will develop draft cultural resources and UDP awareness training in coordination with Revolution Wind. The training program will be provided to BOEM and the RIHPhC for review and comment before the training program is finalized.

In additional to the training program, the SEARCH QMA will generate an informational graphic summarizing the UDP and the materials discussed in the cultural resources and UDP awareness training program. The informational graphic will include:

- Images of common types of submerged cultural resources and materials;
- A flow chart depicting the UDP reporting process;
- A notice to all employees of their stop work authority if potential cultural resources are encountered; and
- Contact information for the Revolution Wind staff responsible for overseeing implementation of the UDP and the QMA.

The informational graphic will be placed in a conspicuous location on each project and contractor vessel where workers can see it and copies will be made available to project and/or contractor staff upon request.

PROCEDURES WHEN CULTURAL MATERIAL ARE OBSERVED

As part of its COP submission, Revolution Wind conducted an extensive marine archaeological resources assessment (MARA) of the Project's preliminary area of potential effects (PAPE). The MARA identified 19 potential submerged cultural resources (Targets 01-11 and Targets 13-20) and 13 geomorphic features of archaeological interest (Targets 21-33) within the PAPE. Revolution Wind anticipates avoidance of Targets 01-11 and Targets 13-20 and their associated recommended avoidance buffers. Additionally, Revolution Wind has committed to avoidance of Target 27 and Targets 31-33. Revolution Wind has developed a Mitigation Framework and Historic Properties Treatment Plan to aid in avoiding, minimizing, and/or mitigating adverse effects upon the remaining historic properties (Targets 21-26 and Targets 28-30).

Even with the extensive preconstruction marine archaeological surveys, it is impossible to ensure that all cultural resources have been identified within the PAPE. Even at sites that have been previously identified and assessed, there is a potential for the discovery of previously unidentified archaeological components, features, or human remains that may require investigation and assessment. Furthermore, identified historic properties may sustain effects that were not originally anticipated. Therefore, a procedure has been developed for the treatment of unanticipated discoveries that may occur during site development.

The procedure also will be implemented should an unanticipated archaeological find occur during investigations to ground-truth potential unexploded ordnance (pUXO). In addition, Revolution Wind will involve the QMA during pUXO investigations to consult and monitor. Revolution Wind has agreed to a protocol for inspections that includes a decision tree for contacting the QMA; providing the QMA with inspection reports, including video footage, still photographs, multibeam echosounder imagery, and pUXO specialist observations; and real-time video monitoring for inspections that occur atop shallowly buried geomorphic features of archaeological interest.

The implementation of the final UDP will be overseen by Revolution Wind and a QMA who meets or exceeds the Secretary of the Interior's *Professional Qualifications Standards for Archaeology* [48 FR 44738-44739] and has experience in conducting HRG surveys and processing and interpreting data for archaeological potential [BOEM 2020]. See **Figure 1** for a flow chart of the communications and notification plan for unanticipated discoveries.

If unanticipated submerged cultural resources are discovered, the following steps should be taken:

(1) Per Lease Stipulation 4.2.7.1, all bottom-disturbing activities in the immediate area of the discovery shall cease and every effort will be made to avoid or minimize impacts to the potential submerged cultural resource(s).
(2) The project or contractor staff will immediately notify Revolution Wind of the discovery.
(3) Revolution Wind will notify the QMA and provide them with sufficient information/documentation on the potential find to allow the QMA to evaluate the discovery and determine if the find is a cultural resource. If necessary, the QMA may request to visit the find site or the vessel that recovered the cultural material to inspect

the find. If the find is a cultural resource, the QMA will provide a preliminary assessment as to its potential to be a historic property as defined in 36 CFR Part 800.

(4) Per Lease Stipulation 4.2.7.1, BOEM shall be notified of the potential submerged cultural resource within 24 hours of the discovery. Revolution Wind shall also notify the State Historic Preservation Officer (SHPO) of Rhode Island and/or Massachusetts, the State Archaeologist(s), and the Tribal Historic Preservation Officers (THPOs) or other designated representatives of the consulting tribal governments. If the potential submerged cultural resource could be a sunken military craft under the jurisdiction of the Department of the Navy, then Revolution Wind additionally will notify the NHHC.

(5) Within 72 hours of being notified of the discovery, Revolution Wind shall issue a report in writing to BOEM providing available information concerning the nature and condition of the potential submerged cultural resource and observed attributes relevant to the resource's potential eligibility for listing in the National Register of Historic Places (NRHP).

(6) Revolution Wind shall consult with BOEM, as feasible, to obtain technical advice and guidance for the evaluation of the discovered cultural resource.

(7) If the impacted resource is determined by BOEM, in consultation with the NHHC if applicable to a sunken military craft, to be NRHP eligible, a mitigation plan shall be prepared by Revolution Wind for the discovered cultural resource. This plan must be reviewed by BOEM prior to submission to the RI/MA SHPO and representatives from consulting federally recognized Tribes/Tribal Nations for their review and comment, as well as provided to the NHHC for review and approval if the potential cultural resource falls under the jurisdiction of the Department of the Navy. The RI/MA SHPO and Tribes/Tribal Nations will review the plan and provide comments and recommendations within one week, with final comments to follow as quickly as possible.

(8) Per Lease Stipulation 4.2.6, Revolution Wind may not impact a known archaeological resource in federal waters without prior approval from BOEM. If the potential resource falls under the jurisdiction of the Department of the Navy, then similar approval will be provided from the NHHC. No development activities in the vicinity of the cultural resource will resume until either a mitigation plan is executed or, if BOEM, or the NHHC if applicable, determines a mitigation plan is not warranted, BOEM provides written approval to Revolution Wind to resume bottom disturbing activities. For discoveries in state waters, Revolution Wind will not impact a known archaeological resource with prior approval from BOEM and the RI/MA SHPO.

If suspected human remains are encountered, the below procedures, which comply with the Advisory Council on Historic Preservation's (ACHP) *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects*, should be followed.

(1) All work in the near vicinity of the human remains shall cease and reasonable efforts should be made to avoid and protect the remains from additional impact. Encountered potential material shall be protected, which may include keeping the remains submerged in an onboard tank of sea water or other appropriate material.

(2) The Onboard Representative shall immediately notify the County Medical Examiner, State Archaeologist, the Forensic Anthropology Unit of the Rhode Island State Police, and Revolution Wind as to the findings.

(3) Revolution Wind will notify the QMA and provide them with sufficient information/documentation on the potential find to allow the QMA to evaluate the discovery and determine if the find is a cultural resource. If necessary, the QMA may request to visit the vessel to inspect the potential human remains. If the find is a cultural resource, the QMA will provide a preliminary assessment. The QMA will document and inventory the remains and any associated artifacts, and assist in coordinating with federal, state, and local officials.

(4) A plan for the avoidance of any further impact to the human remains and/or mitigative excavation, reinternment, or a combination of these treatments will be developed in consultation with the State Archaeologist; the RI/MA SHPO; BOEM; the NHHC, if the potential human remains could be associated with a sunken military craft under the jurisdiction of the Department of the Navy; and appropriate Tribes or closest lineal descendants. All parties will be expected to respond with advice and guidance in an efficient time frame. Once the plan is agreed to by all parties, the plan will be implemented.

(5) If suspected human remains are encountered in RI State Waters, Revolution Wind will additionally adhere to the requirements of the Rhode Island Historic Cemeteries Act (Attachment A).

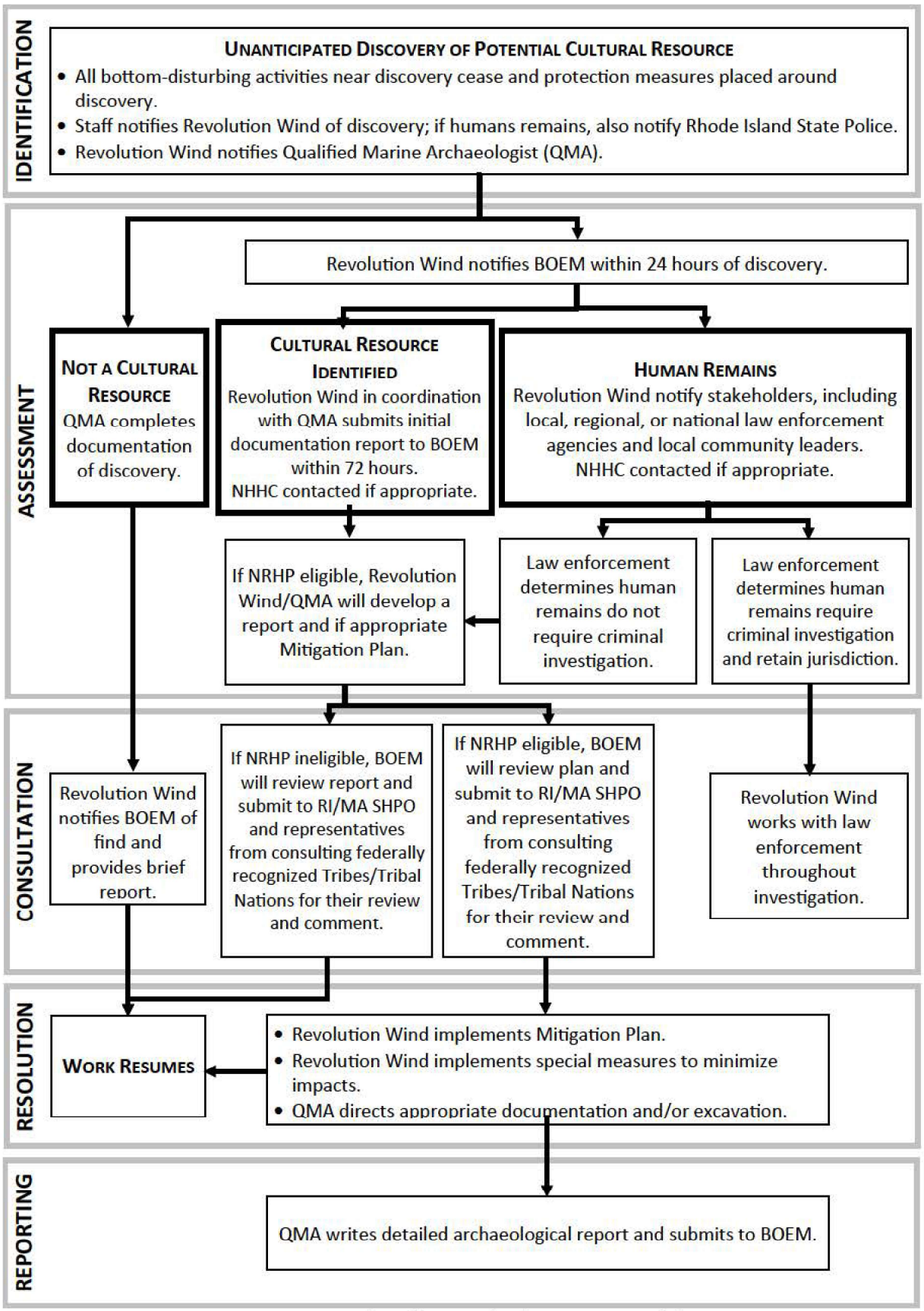

Figure 1. Communications and notification plan for unanticipated discoveries.

ARCHAEOLOGICAL INVESTIGATION OF A SUBMERGED UNANTICIPATED DISCOVERY

Archaeological investigation of a submerged unanticipated discovery may be necessary in order to evaluate the find, determine its eligibility for listing in the NRHP, and/or assess any construction impacts that may have occurred. The following is a recommended procedure for complying with the UDP and providing BOEM; NHHC, if applicable; and RI/MA SHPO with the necessary information to make informed decisions to approve continuation of bottom disturbing activities. After each step, consultation among the appropriate parties will occur.

(1) Initial assessment of unanticipated discovery via a refined HRG survey and/or ROV investigation (Phase Ia reconnaissance survey).
    a. May result in no further recommended action (i.e., target is not a historic property) or additional investigation.
(2) Develop an avoidance zone based upon Step 1.
    a. Minimally, construction activity will remain outside of the avoidance zone for a period of time necessary to allow archaeological investigation, if required.
    b. Determine whether construction activity can remain outside of the avoidance zone permanently.
(3) Identify the source, delineate the site boundary, and assess potential impacts that led to the unanticipated discovery (Phase Ib identification).
    a. Accomplished utilizing archaeological/scientific diving and/or ROV investigation.
    b. May result in no further recommended action (i.e., target is not a historic property) or additional investigation.
(4) Determine eligibility for listing in the NRHP (Phase II NRHP evaluation).
    a. Accomplished utilizing archaeological/scientific diving.
    b. May require extensive excavation.
    c. May require archival research.
(5) Develop a strategy to resolve adverse effects to the historic property that occurred as a result of the unanticipated discovery and to minimize or mitigate potential future adverse effects as construction proceeds.
(6) On-site monitoring of bottom disturbing activities at the location.

Not all of these steps may be necessary, and the appropriate course of action will be determined at the time of discovery and in consultation with BOEM and if applicable, RI/MA SHPO.

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Mashpee Wampanoag Tribe
[redacted]

Wampanoag Tribe of Gay Head (Aquinnah)
[redacted]

Mashantucket Pequot Tribal Nation

The Narragansett Indian Tribe

Mohegan Tribe of Indians in Connecticut

The Shinnecock Indian Nation

REFERENCES CITED

Advisory Council on Historic Preservation's (ACHP)

2007 *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects*.https://www.achp.gov/sites/default/files/policies/2018-06/ACHPPolicyStatementRegardingTreatmentofBurialSitesHumanRemainsandFunerary Objects0207.pdf, Digital article accessed December 9, 2021.

Bureau of Ocean Energy Management (BOEM)

2020 *Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585.* United States Department of the Interior, Office of Renewable Energy Programs.

APPENDIX K

Supplemental Information on Alternatives Development

Contents

Figures

Tables

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Introduction

The Bureau of Ocean Energy Management (BOEM) considered alternatives to the Proposed Action that were identified through coordination with cooperating and participating agencies and through public comments received during the public scoping period for the environmental impact statement (EIS). BOEM evaluated the alternatives and excluded from further consideration alternatives that did not meet the purpose and need, did not meet the screening criteria, or both. The screening criteria are presented below. Alternatives that were considered and carried forward for detailed analysis are presented in Section 2.1 of the EIS, Alternatives, and alternatives excluded from further consideration, are presented in Section 2.1.8, Alternatives Considered but Dismissed from Detailed Analysis.

The sections below provide more detail on BOEM's screening criteria followed by additional background on the evolution of the layouts carried forward for Alternatives C1, C2, E1, and E2.

Alternatives Screening Criteria

An alternative would be considered but not analyzed in detail if it meets any of the following criteria (BOEM 2022)[1]:

- It does not respond to BOEM's purpose and need:
    - It results in activities that are prohibited under the lease, e.g., requiring locating part, or all, of the wind energy facility outside of the Lease Area, or constructing and operating a facility for another form of energy.
    - It is inconsistent with the following federal and state policy goals:
        - The United States' policy under the Outer Continental Shelf Lands Act to make Outer Continental Shelf (OCS) energy resources available for the expeditious and orderly development, subject to environmental safeguards
        - Executive Order 14008 (Tackling the Climate Crisis at Home and Abroad) issued on January 27, 2021
        - The shared goal of the U.S. Departments of Interior, Energy, and Commerce to deploy 30 gigawatts (GW) of offshore wind in the United States by 2030, while protecting biodiversity and promoting ocean co-use
        - The goals of affected states, including state laws that establish renewable energy goals and mandates, where applicable
    - It is inconsistent with existing law, regulation, or policy; a state or federal agency would be prohibited from permitting activities required by the alternative.
- It does not meet most of the applicant's goals:
    - It proposes relocating most of the Project outside of the area proposed by the applicant.

[1] BOEM's Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act (NEPA) published June 22, 2022, is available at this link: https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf

    - It results in the development of a project that would not allow the developer to satisfy contractual offtake obligations.

- There is no scientific evidence that the alternative would avoid or substantially lessen one or more significant socioeconomic or environmental effects of the Project.
- It is technically infeasible or impractical, meaning implementation of the alternative is unlikely given past and current practice, technology, and/or site conditions as determined by BOEM's technical experts.
- It is economically infeasible or impractical, meaning implementation of the alternative is unlikely due to unreasonable costs as determined by BOEM's technical and economic experts.
- It is environmentally infeasible, meaning implementation of the alternative would not be allowed by another agency from which a permit or approval is required, or implementation results in an obvious and substantial increase in impacts on the human environment that outweighs potential benefits.
- The implementation of the alternative is remote or speculative, or it is too conceptual in that it lacks sufficient detail to meaningfully analyze impacts; or there is insufficient available information to determine whether the alternative is technically feasible.
- It has a substantially similar design to another alternative that is being analyzed in detail.
- It would have a substantially similar effect as an alternative that is analyzed in detail.

Alternative C: Habitat Impact Minimization Alternative (Habitat Alternative)

The Revolution Wind Renewable Energy Lease OCS-A 0486 (Lease Area), partially located on Cox Ledge, is dominated by complex benthic habitats, with large contiguous areas of complex habitats located centrally and throughout the entire southern portion of the Lease Area. Smaller, patchy areas of complex habitats also occur throughout the northern portion of the Lease Area (see Appendix X2 [Inspire Environmental 2023] in the *Construction & Operations Plan Revolution Wind Farm* [COP] [VHB 2023] for the benthic habitat mapping report).

BOEM received scoping comments from the U.S. Environmental Protection Agency (EPA), the New England and Mid-Atlantic Fisheries Management Councils, the Defenders of Wildlife, the Nature Conservancy, and National Marine Fisheries Service (NMFS) that supported the creation of an EIS alternative focused on reducing impacts to complex benthic habitat that may support important commercial and recreational fisheries species in the Lease Area (SWCA Environmental Consultants 2022). Some of these comments specifically cited the importance of Cox Ledge and surrounding complex habitat areas for Atlantic cod (*Gadus morhua*) spawning and survival of juvenile cod. The extensive boulders and cobbles in the area also provide habitat for other structure-oriented fish species, such as black sea bass (*Centropristis striata*).

Micrositing,[2] in which the installation location of a wind turbine generator (WTG) foundation is altered slightly from the proposed location to avoid sensitive habitat or seabed hazards, allows for the reduction of impacts to complex habitats at some WTG locations. However, given the density of complex habitats throughout the Lease Area, it would not be feasible to fully avoid impacts to these habitats and meet the existing power purchase agreements (PPAs) with the largest turbine size considered in the project design envelope (PDE). Therefore, Alternative C considers and prioritizes contiguous areas of complex habitat that should be excluded from development to avoid and minimize impacts to complex habitats to the greatest extent possible while meeting BOEM's purpose and need. Alternative C seeks to reduce impacts to sensitive benthic habitats within the Lease Area that are most vulnerable to permanent and long-term impacts from the Proposed Action. The number of WTGs that could be removed in Alternative C is based on the minimum power output for Revolution Wind, LLC (Revolution Wind) (704 megawatts [MW]) using the largest-capacity WTG in the PDE (12 MW). BOEM determined a maximum of 36 WTG locations could be eliminated from the proposed 100 locations, which include a minimum of five "spare" WTG positions to allow for installation and engineering flexibility.

Preliminary Screening and Rationale

BOEM sought NMFS's Greater Atlantic Regional Fisheries Office (GARFO) input on determining which WTG positions should be removed to most effectively reduce impacts to complex benthic habitats in the Lease Area. GARFO provided BOEM with four priority areas for potential avoidance (Figure K-1). In order of descending priority, GARFO identified Area 1 (eight WTG positions), Area 2 (38 WTG positions), Area 3a (six WTG positions), and Area 3b (nine WTG positions). The identification and ranking of these priority areas were based on multibeam backscatter data and the presence of identified large boulders (i.e., > 0.5–1.0 meters [m] in diameter) within the Lease Area; their proximity to Cox Ledge; and the importance of these habitats as EFH, particularly for spawning Atlantic cod. The estimated importance of these areas to Atlantic cod is supported by recent acoustic, telemetry, and fisheries-dependent biological sample data (Van Hoeck et al. 2022; Van Parijs 2022). Based on the COP and additional feedback from the applicant, BOEM continues to assume no change to the offshore substation locations due to feasibility constraints that would delay the Project to the extent that it would no longer meet the PPA obligations or BOEM's purpose and need as described in Section 1.2 of the EIS. The scientific rationale for the prioritization of the four priority areas is provided in the following paragraphs.

[2] In accordance with 30 Code of Federal Regulations 585.634(C)(6), micrositing of WTG foundations may occur within a 500-foot (152-meter [m]) radius around each proposed WTG location. The micrositing allowance for the Project is a diamond-shaped area within the 500-foot (152-m) radius circle surrounding foundation locations, ensuring 1.15-mile (1-nautical mile [nm]) spacing on the cardinal directions and no less than 0.7 mile (0.6 nm) on the inter-cardinal directions.

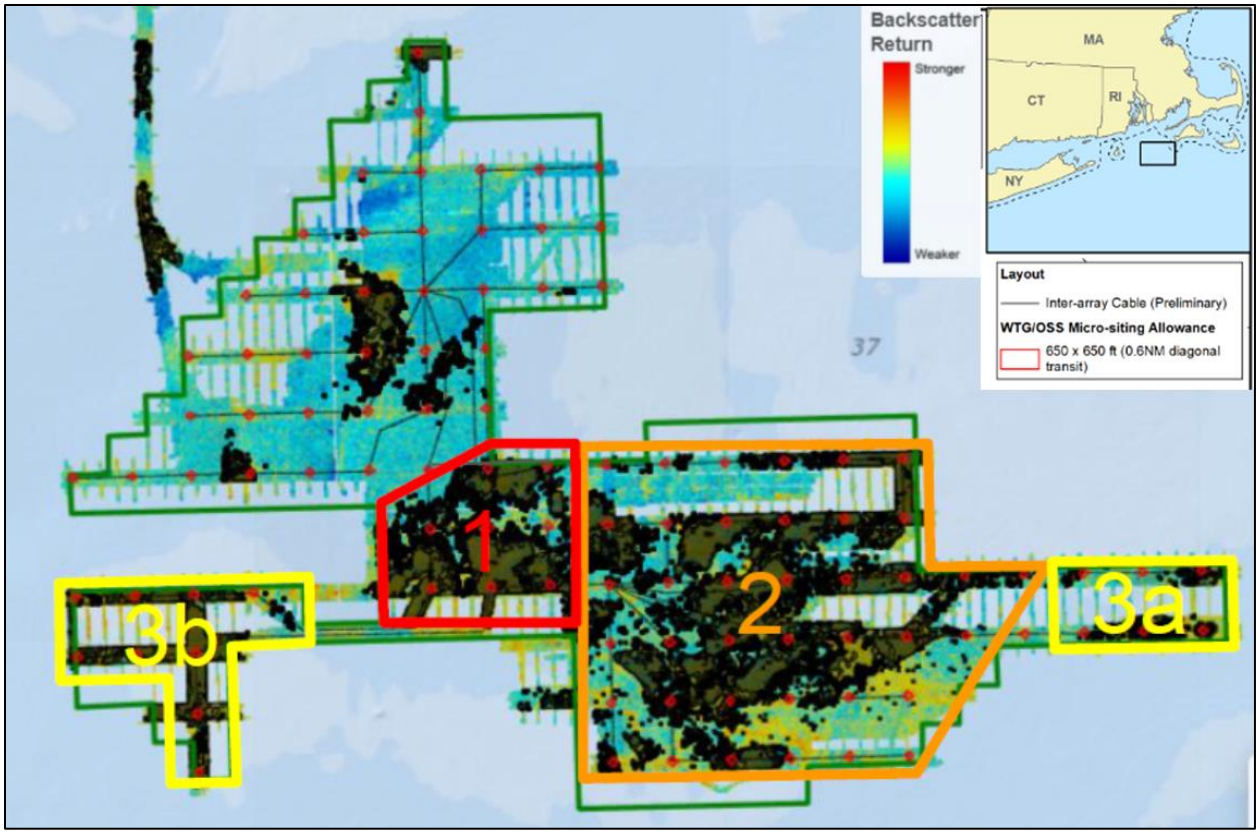

Figure K-1. Alternative C development. Revolution Wind Lease Area with multi-beam backscatter and boulder presence (dark green with black outlines; data from construction and operations plan Appendix X2) shown in relation to the four priority areas identified for avoidance by the Greater Atlantic Regional Fisheries Office on November 5, 2021.

Area 1 contains contiguous complex habitat illustrated by high multibeam backscatter return and a high density of large boulders (> 0.5–1.0 m in diameter). This area overlaps documented cod spawning activity based on recent acoustic, telemetry, and fisheries-dependent biological sample data (Van Hoeck et al. 2022; Van Parijs 2022). GARFO requested no modification in the shape of this area targeted for removal.

Area 2 contains large areas of contiguous complex habitat illustrated by high multibeam backscatter return and a high density of large boulders (> 0.5–1.0 m in diameter). Acoustic and telemetry data for Atlantic cod in this area are limited (Van Parijs 2022). Ongoing research and emerging data will assist in evaluating the importance of this area for cod spawning. GARFO requested that any modification of this area be limited to modifying the boundaries of the area rather than selection of particular turbine locations within the area and should prioritize maintaining the largest contiguous complex habitat area feasible.

Areas 3a and 3b are areas of complex habitat illustrated by high multibeam backscatter return and identified large boulders (> 0.5–1.0 m in diameter). Data for Atlantic cod in this area are limited (Inspire Environmental 2019, 2020). Ongoing research and emerging data will assist in evaluating the importance of this area for cod spawning. GARFO requested that any development of these areas be considered only if it would allow for the protection and conservation of higher priority areas.

If BOEM omitted all turbines within the identified priority areas (a total of 61 WTGs) from Alternative C, then Alternative C would not meet the purpose and need. A discussion of the further reduction of impacts to these habitats through the selection of Alternative C in conjunction with Alternative F is provided in EIS Section 3.13.2. BOEM developed the layouts for Alternative C based on the following criteria:

- GARFO's identified priority areas (see Figure K-1)
- Maintaining continuity of complex habitat
- Boulder density (higher density areas were avoided over lower density areas.)
- Multibeam backscatter data (high backscatter areas were avoided over lower backscatter areas.)
- Engineering considerations such as maintaining linearity of inter-array cable (IAC) layouts and maintaining offshore substation locations

BOEM identified two layouts for Alternative C that aim to address these criteria. Alternative C1 removes all WTG positions from Area 1 and 27 WTG positions from Area 2 leaving 65 WTG positions remaining (Figure K-2). Alternative C2 removes all WTG positions from Area 1 and 28 WTG positions from Area 2 leaving 64 WTG positions remaining (Figure K-3). Alternative C1 reduces development in areas of contiguous complex habitat slightly more than Alternative C2. Alternative C2 shifts exclusion of three WTG positions from the southeastern portion to areas further north to reduce development in or adjacent to known cod spawning areas, however, resulting in slightly less complex habitat avoided when compared to Alternative C1. See EIS Section 3.6.2.4 for more information on differences in impacts to complex habitats.

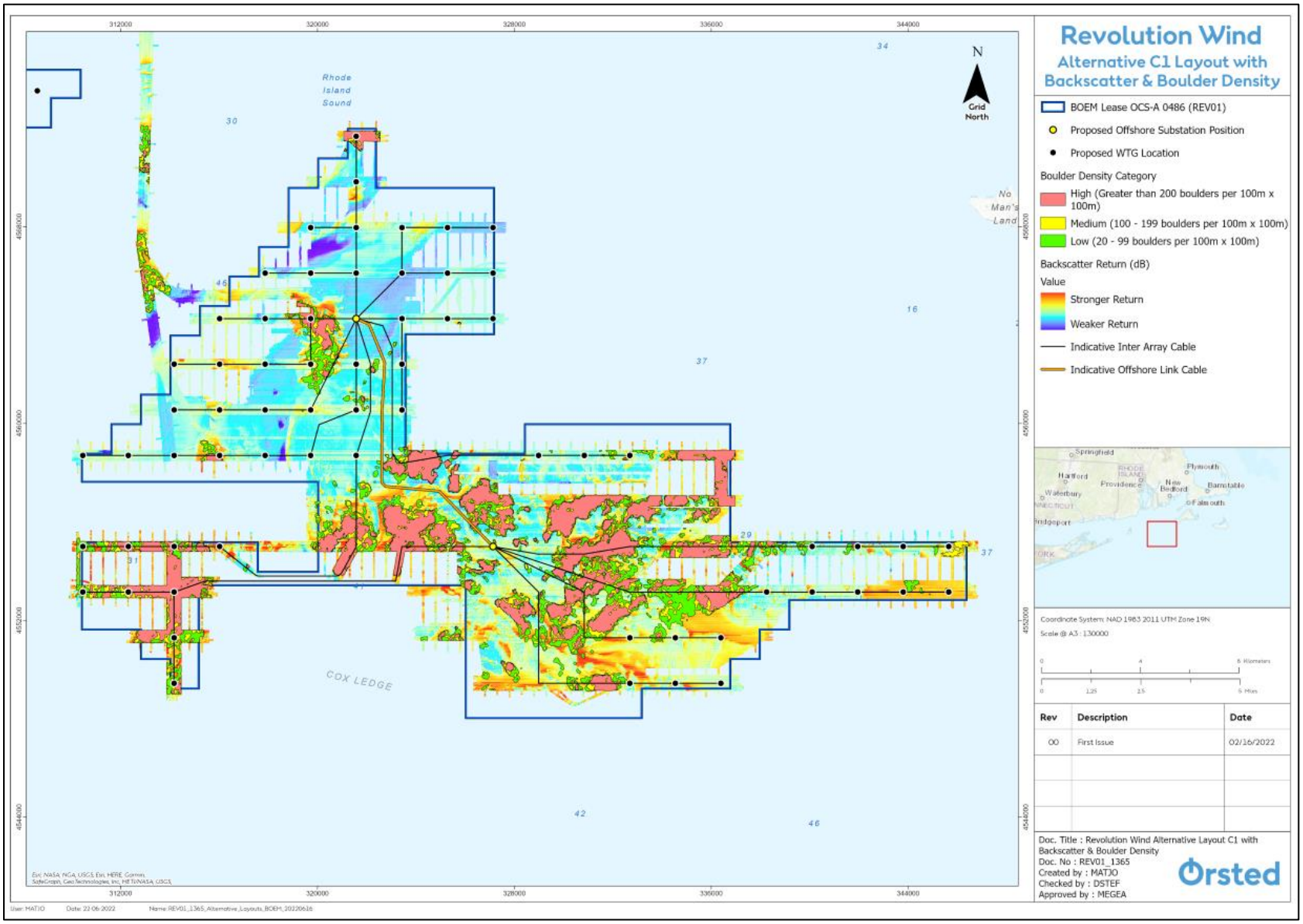

Figure K-2. Alternative C1 layout overlaid with backscatter and boulder density data. Image courtesy of Orsted.

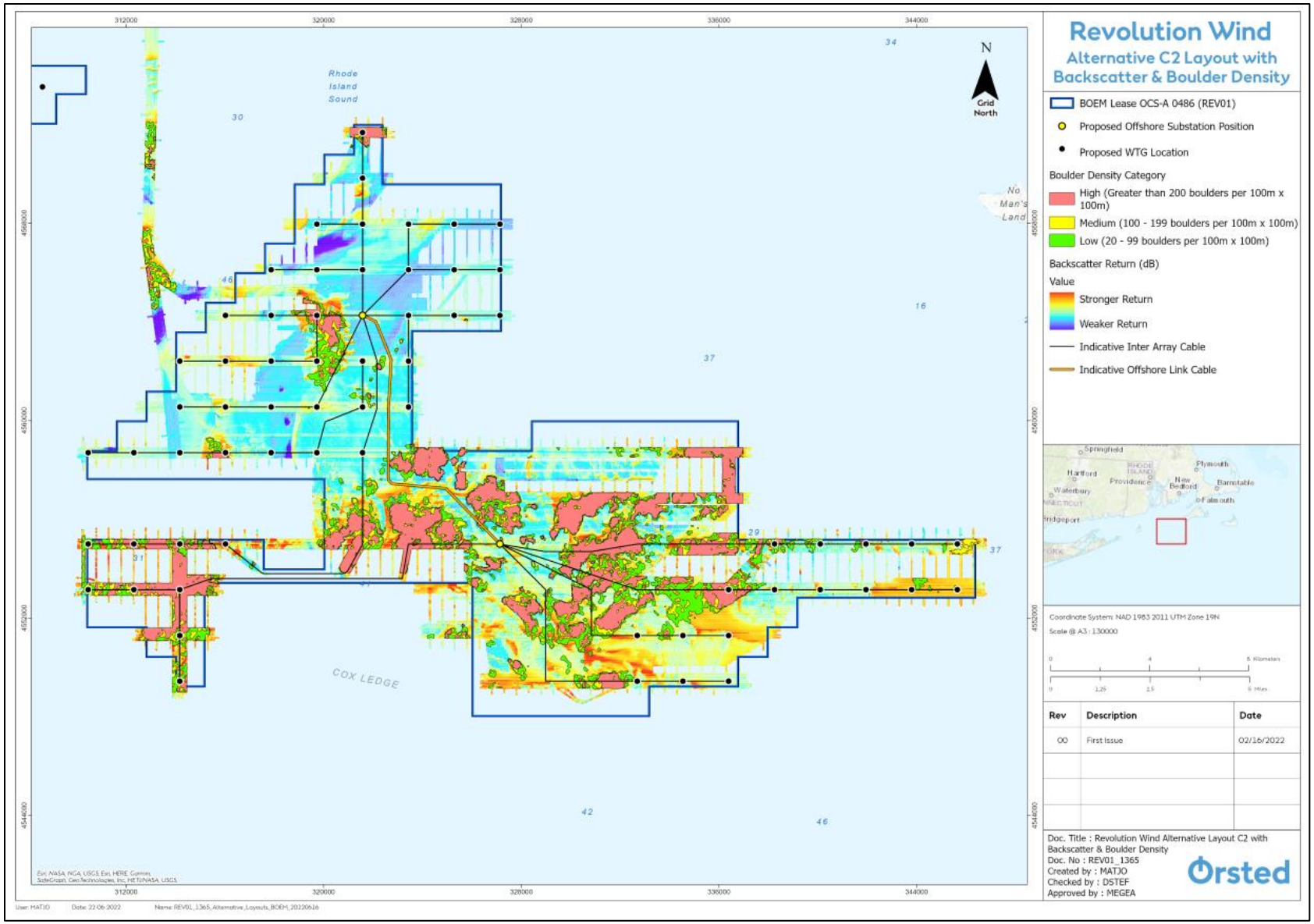

Figure K-3. Alternative C2 layout overlaid with backscatter and boulder density data. Image courtesy of Orsted.

Alternative E: Reduction of Surface Occupancy to Reduce Impacts to Culturally Significant Resources Alternative (Viewshed Alternative)

The federally recognized Wampanoag Tribe of Gay Head (Aquinnah) has identified certain unencumbered views from the Gay Head Cliffs (i.e., Aquinnah Cliffs) on Martha's Vineyard as important to their oral history, traditions, cultural practices, and as a traditional cultural place (TCP) associated with the Wampanoag cultural hero Moshup. Through scoping and ongoing government-to-government consultation, the northernmost WTGs nearest to the Gay Head Cliffs were identified of the highest concern to the Wampanoag Tribe of Gay Head (Aquinnah), especially at sunset when these WTGs would be backlit and silhouetted. In a letter to BOEM on July 12, 2021, the tribe's historic preservation office noted the importance of the tribe's ancestral lands on the west side of Martha's Vineyard that include Gay Head Cliffs, designated as a national natural landmark by the National Park Service (Washington 2021). The letter also provided a map of the wind development area with an east to west line in which the Wampanoag Tribe of Gay Head (Aquinnah) opposes any development north thereof (Figure K-4). The tribe has expressed concerns that the introduction of offshore wind infrastructure will adversely affect the recently identified Vineyard Sound and Moshup's Bridge TCP and the Gay Head Cliffs National Natural Landmark (which is also part of the TCP). Factoring in the information and concerns of the Wampanoag Tribe of Gay Head (Aquinnah) and other stakeholders, along with balancing the purpose and need in EIS Section 1.2, BOEM considered a suite of options for removing WTG positions aimed at reducing impacts to viewsheds on and surrounding Martha's Vineyard.

Given the proximity of the Project to Martha's Vineyard, visibility of the offshore components cannot be completely eliminated under any action alternative or layout alternatives, while maintaining the minimum positions needed to fulfill the PPA obligations (i.e. 704 MW). To determine which WTG positions could be removed to reduce visual impacts most effectively to these cultural resources, while still meeting the purpose and need, BOEM developed multiple layout alternatives for Alternatives E1 and E2 and directed the Project applicant, Revolution Wind, to produce visual simulations of these layouts. BOEM shared these simulations with the Wampanoag Tribe of Gay Head (Aquinnah) and requested feedback on these potential layouts on September 10, 2021, and again on October 12, 2021, after an additional layout alternative was simulated.

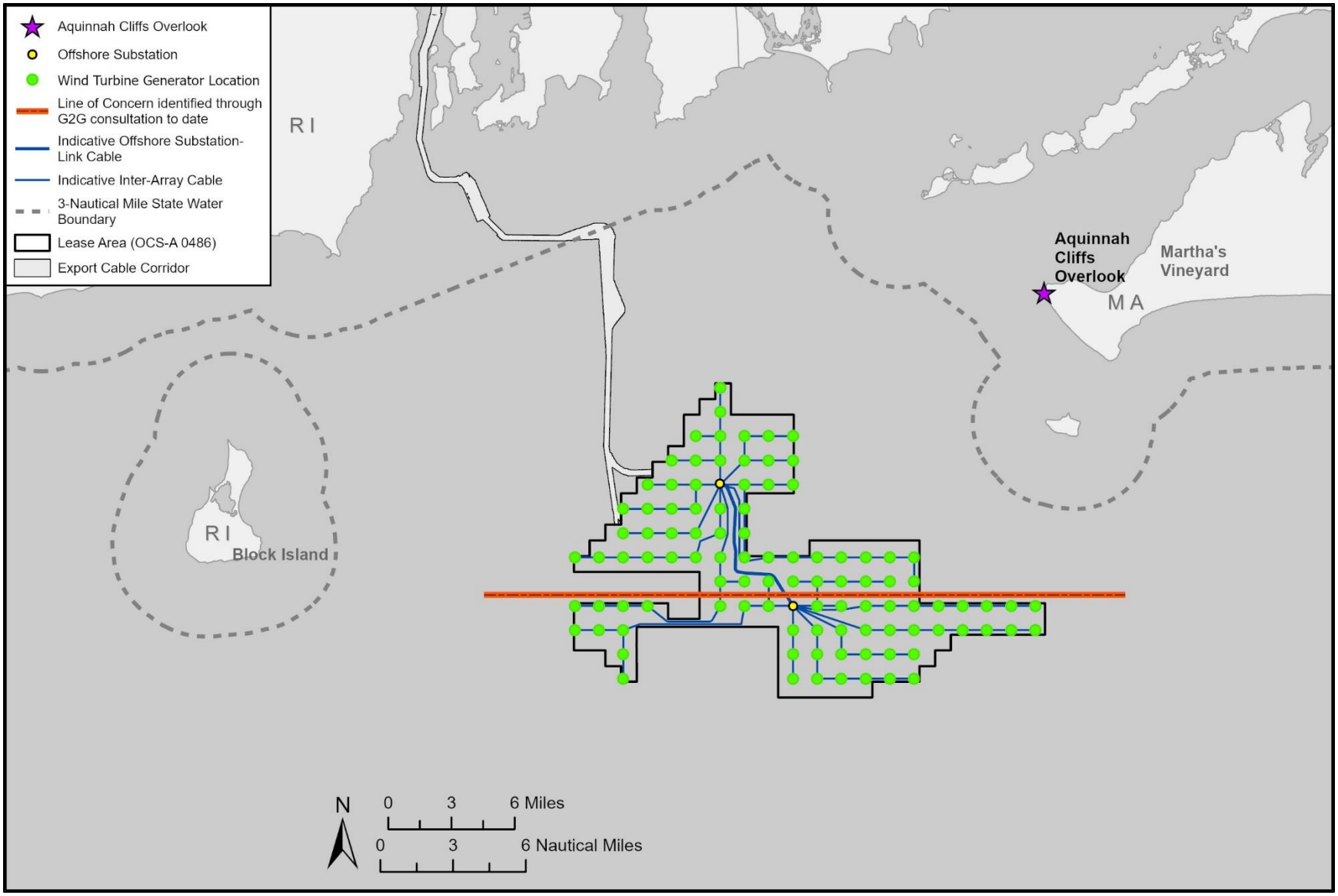

Figure K-4. The line of concern provided by the Wampanoag Tribe of Gay Head (Aquinnah) overlaid with the Lease Area as proposed in Revolution Wind's construction and operations plan.

Preliminary Screening and Rationale

BOEM directed Revolution Wind to simulate eight potential WTG layouts for Alternative E (four for Alternative E1 and four for Viewshed Alternative E2). Figures K-5 through K-12 outline the layouts that were simulated and reviewed by BOEM's subject-matter experts and shared with the Wampanoag Tribe of Gay Head (Aquinnah) for input. No specific responses were received from the tribe; however, applying best professional judgement and input previously received by the tribe and other stakeholders, BOEM's subject-matter experts concluded that Alternatives E1-3 (see Figure K-7) and E2-4 (see Figure K-12) were most effective at reducing the visual impacts of concern at or near the Gay Head Cliffs, as well as other national historic landmarks and culturally important resources in Rhode Island and Massachusetts. Therefore, Alternatives E1-3 and E2-4 were carried forward for detailed analysis as Alternatives E1 and E2 in the EIS, acknowledging that neither alternative completely eliminates the visual impacts of concern for the reasons outlined above but offer a reasonable range of alternatives for consideration by stakeholders and the decisionmaker.

Layout Alternative E1-3 (see Figure K-7) was carried forward because the WTGs on the northwest end appear further apart, reducing the visual clutter and "curtain effect" from the visual overlapping of WTG towers and blades. The horizontal field-of-view of the Project is also less in layout Alternative E1-3 than in all other layouts simulated except for layout Alternative E2-4, with enough positions remaining to fulfill the PPA agreements (i.e. 704 MW).

Layout Alternative E2-4 (see Figure K-12) was carried forward because it reduces the number of WTGs that occupy the northwest end of the field-of-view within the sunset views from the Gay Head Cliffs overlook. Although this layout does not decrease visual prominence of WTGs further east in the Lease Area, it allows for a larger unobstructed sunset view within the northwestern portion of the Lease Area with enough positions remaining to fulfill the PPA agreements (i.e. 704 MW) up to the maximum potential output of the Project (880 MW). Figure K-13 provides a sunset simulation overlaid with the WTG positions that would be removed north-northwest of the northernmost offshore substation under layout Alternative E2-4.

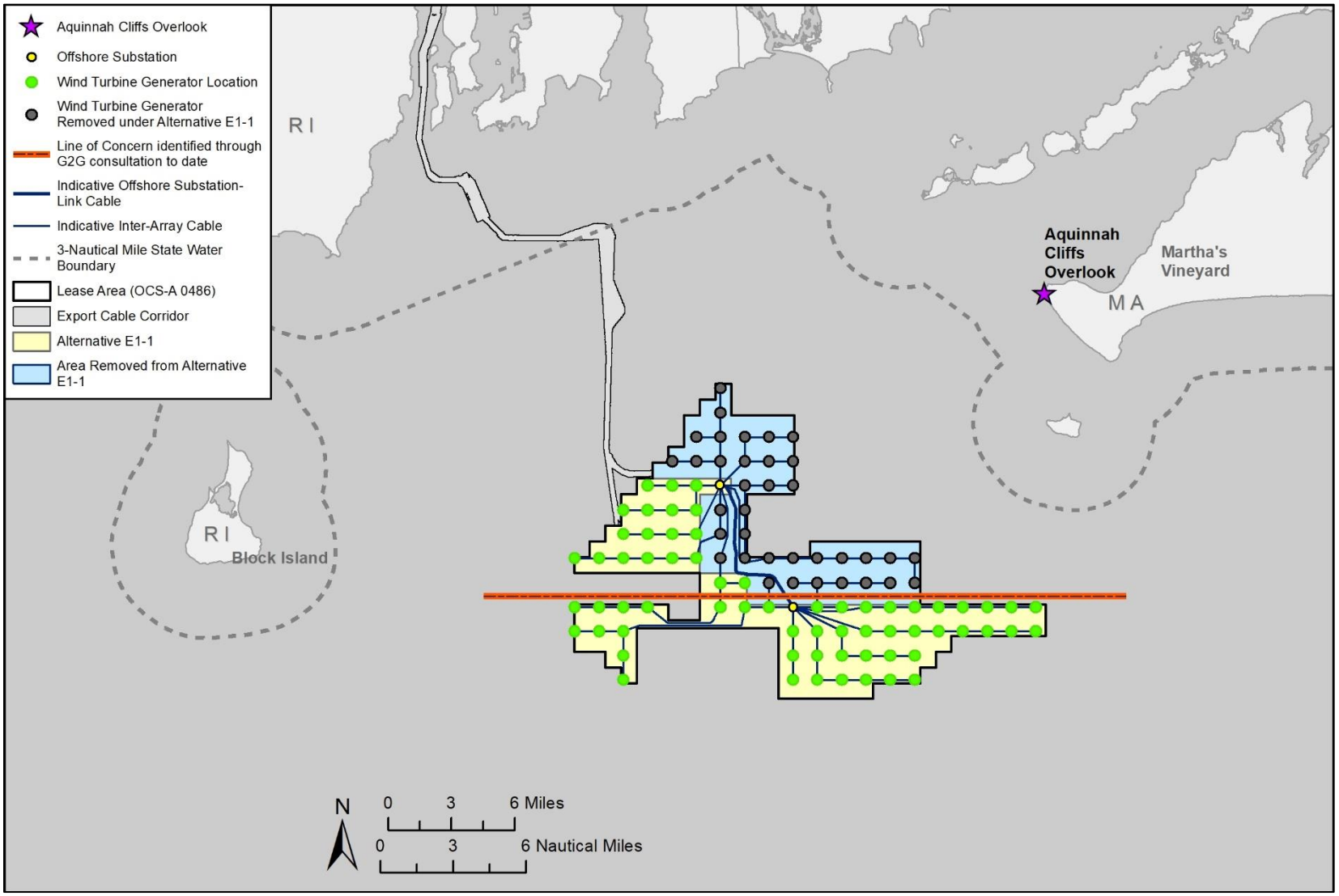

Figure K-5. Layout Alternative E1-1. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 704-megawatt maximum output; removal of 36 wind turbine generator positions (leaves 64 positions available).

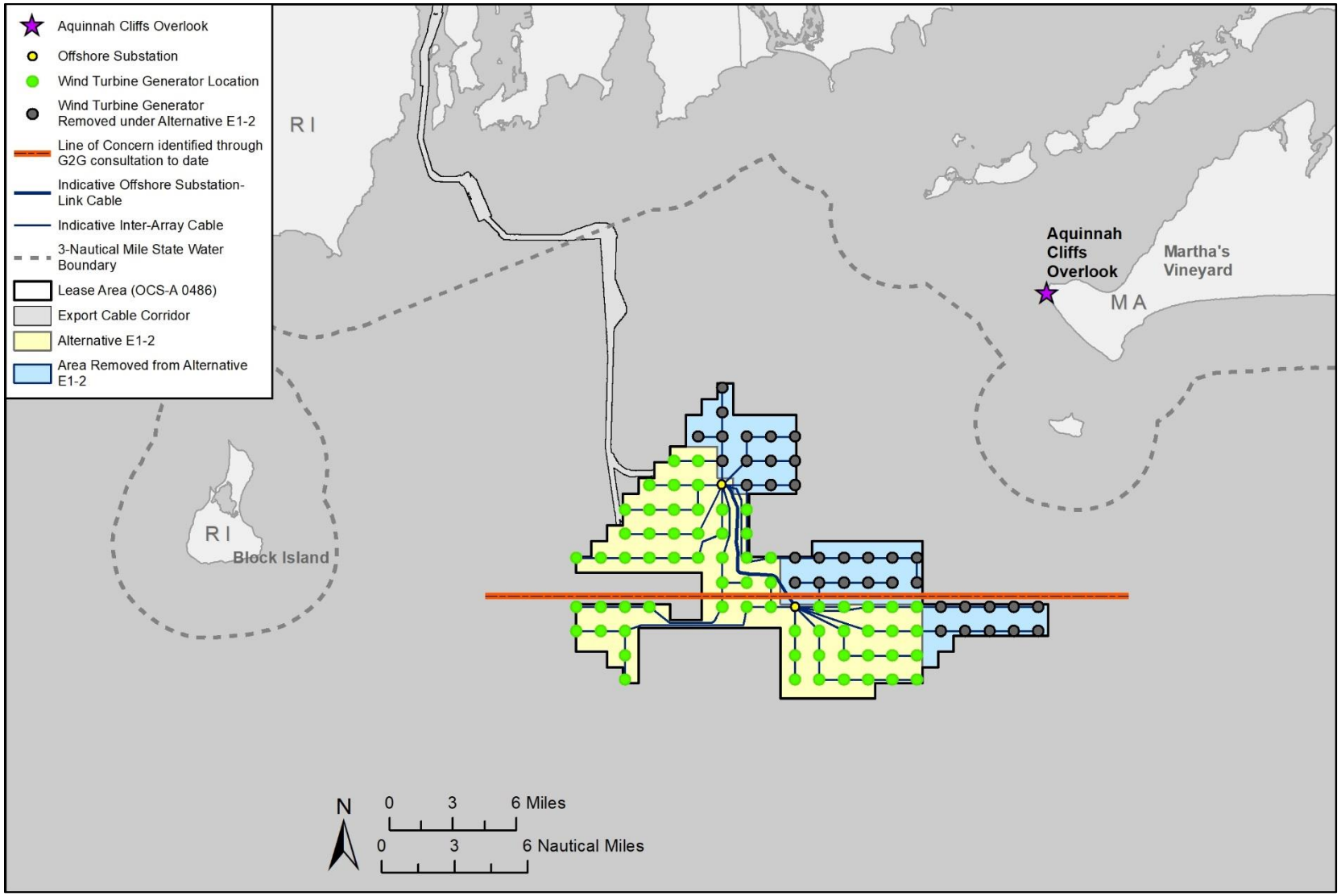

Figure K-6. Layout Alternative E1-2. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 704-megawatt maximum output; removal of 36 wind turbine generator positions (leaves 64 positions available).

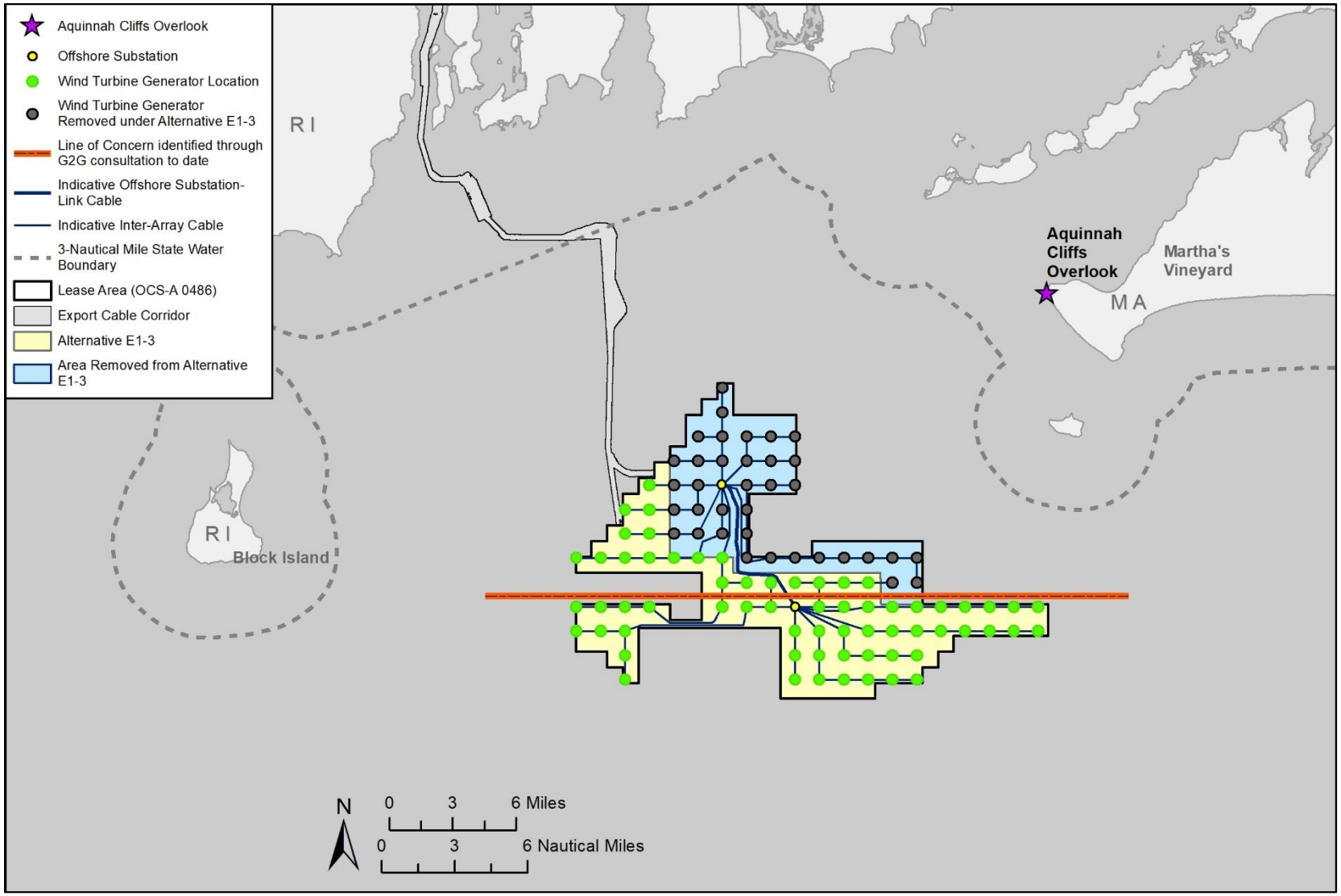

Figure K-7. Layout Alternative E1-3. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 704-megawatt maximum output; removal of 36 wind turbine generator positions (leaves 64 positions available).

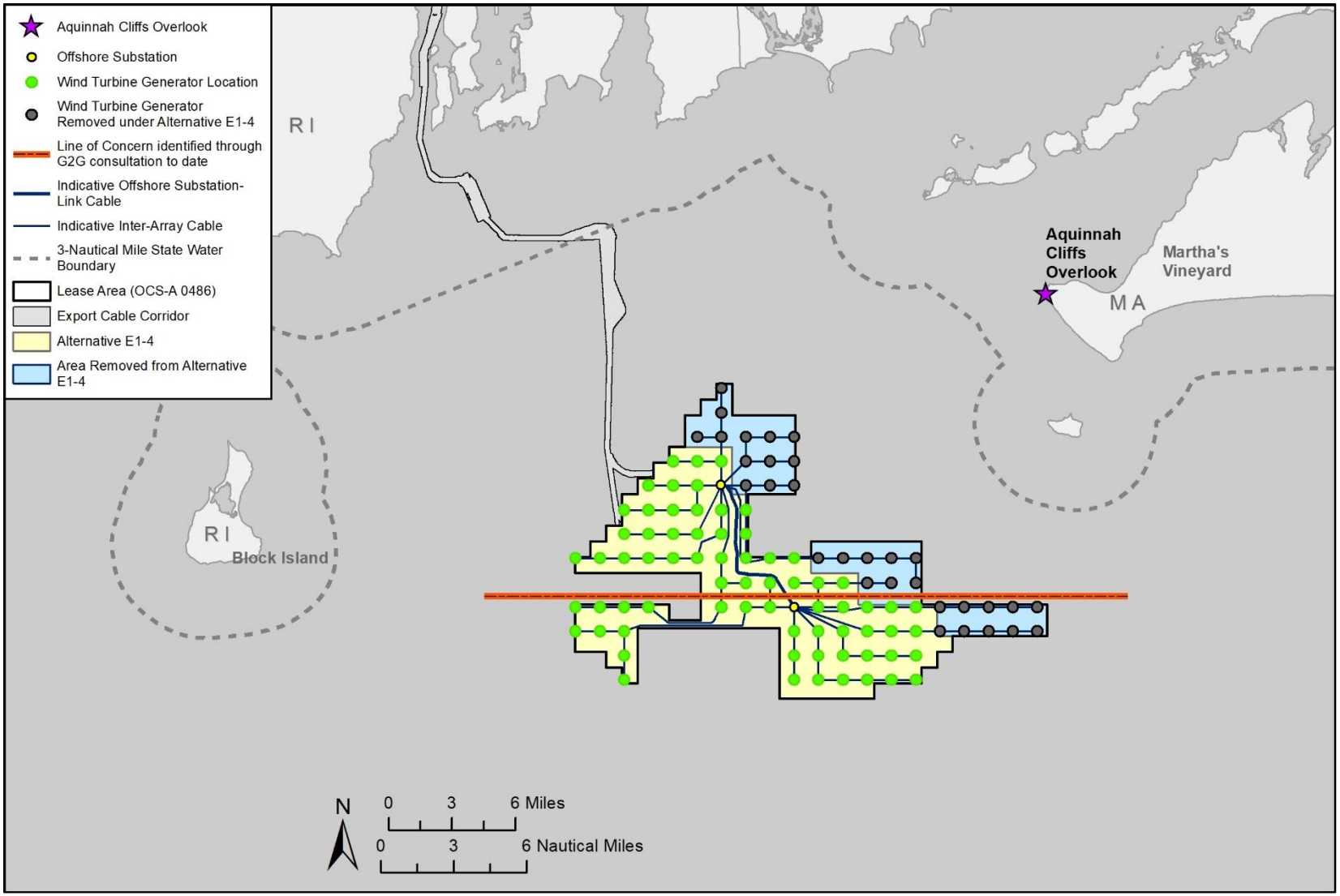

Figure K-8. Layout Alternative E1-4. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 828-megawatt maximum output; removal of 31 wind turbine generator positions (leaves 69 positions available).

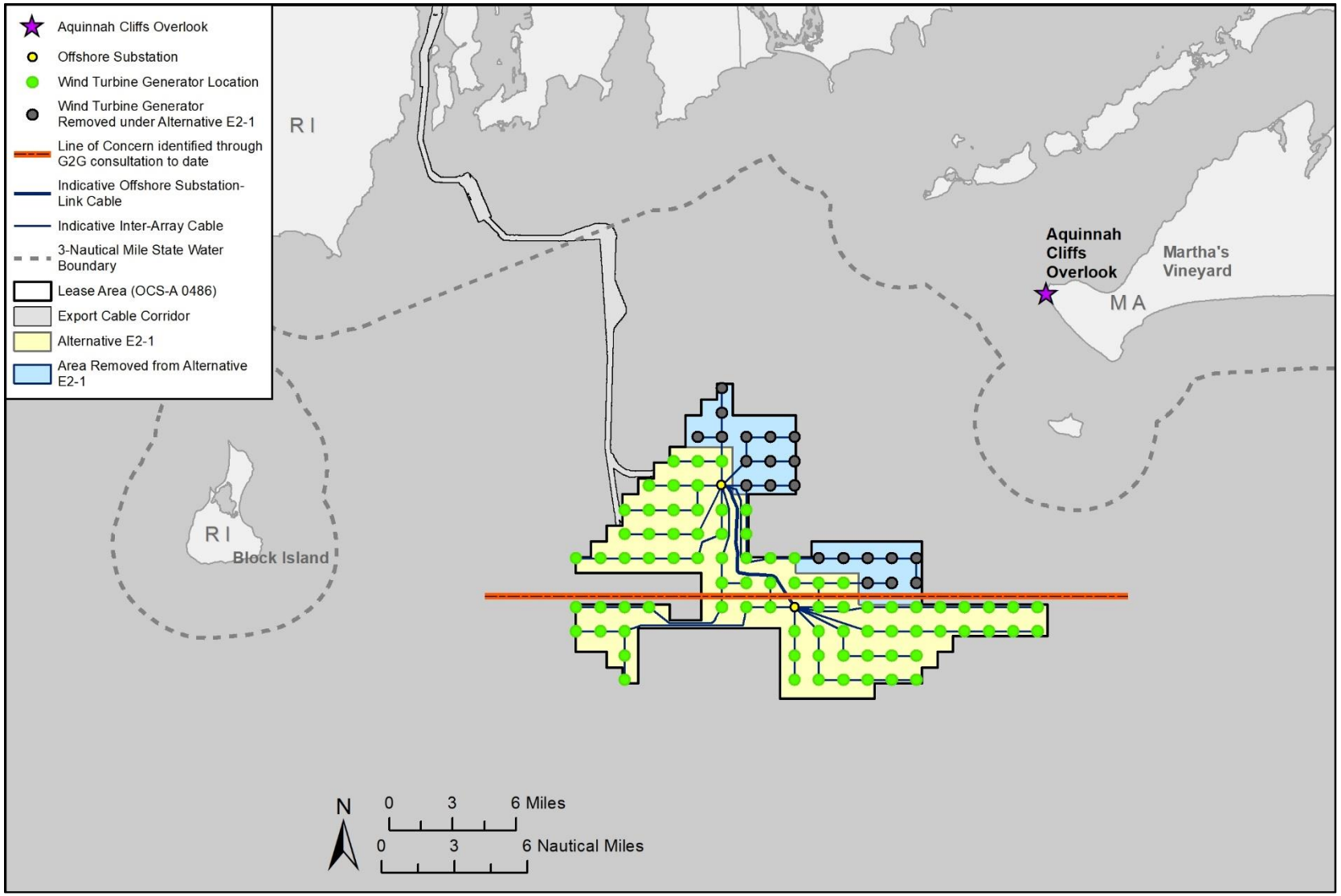

Figure K-9. Layout Alternative E2-1. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 880-megawatt maximum output; removal of 21 wind turbine generator positions (leaves 79 positions available).

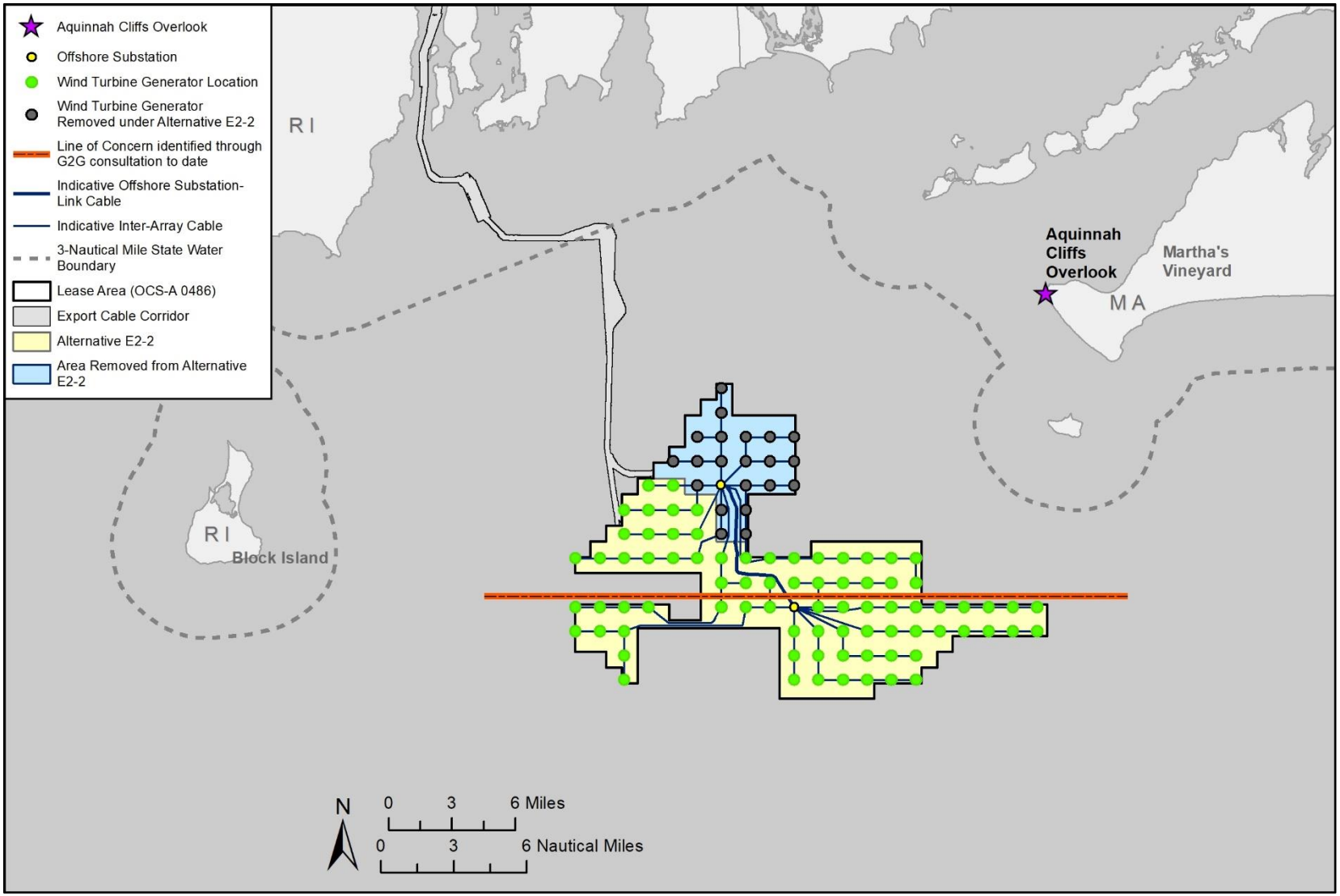

Figure K-10. Layout Alternative E2-2. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 880-megawatt maximum output; removal of 21 wind turbine generator positions (leaves 79 positions available).

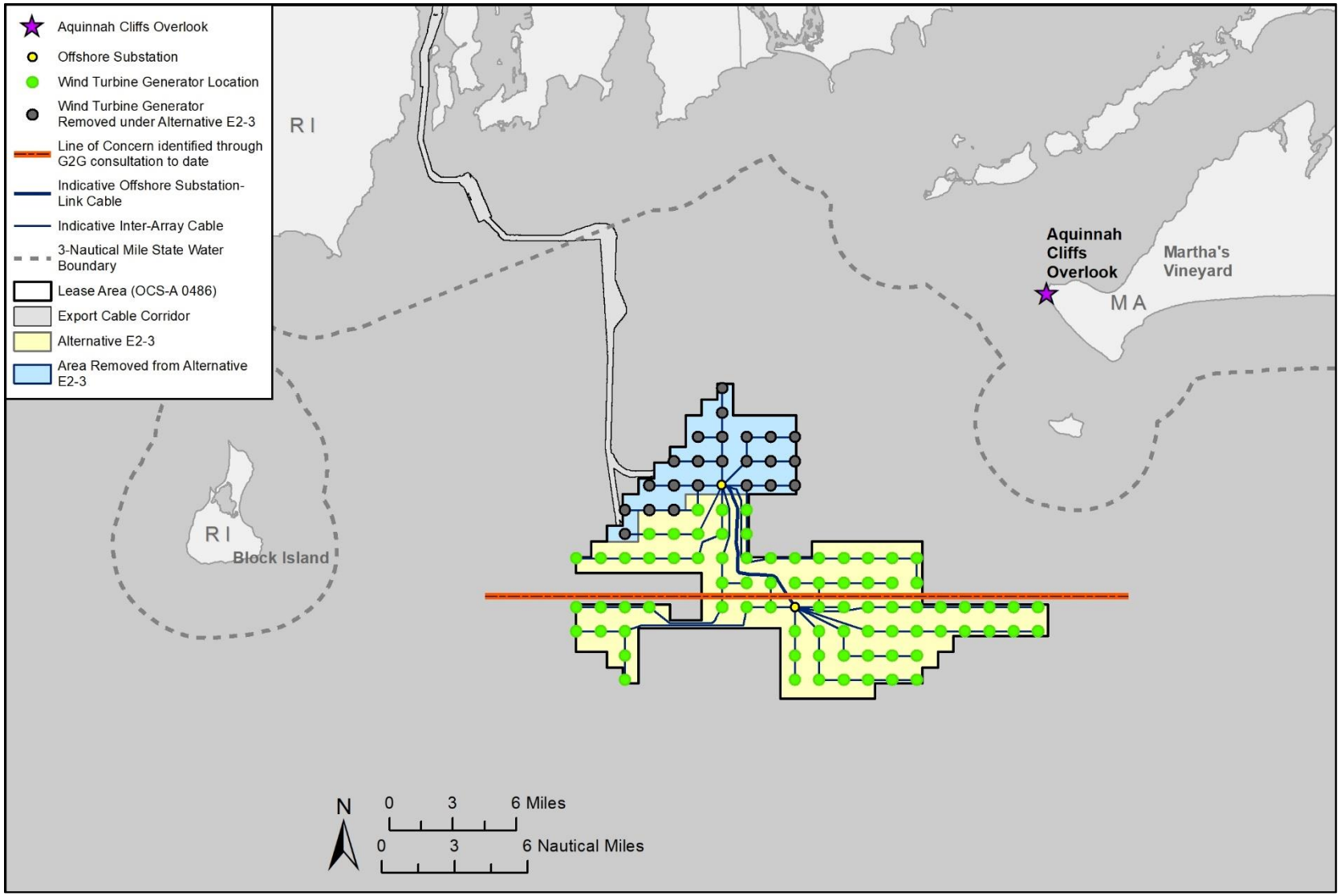

Figure K-11. Layout Alternative E2-3. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 880-megawatt maximum output; removal of 23 wind turbine generator positions (leaves 77 positions available).

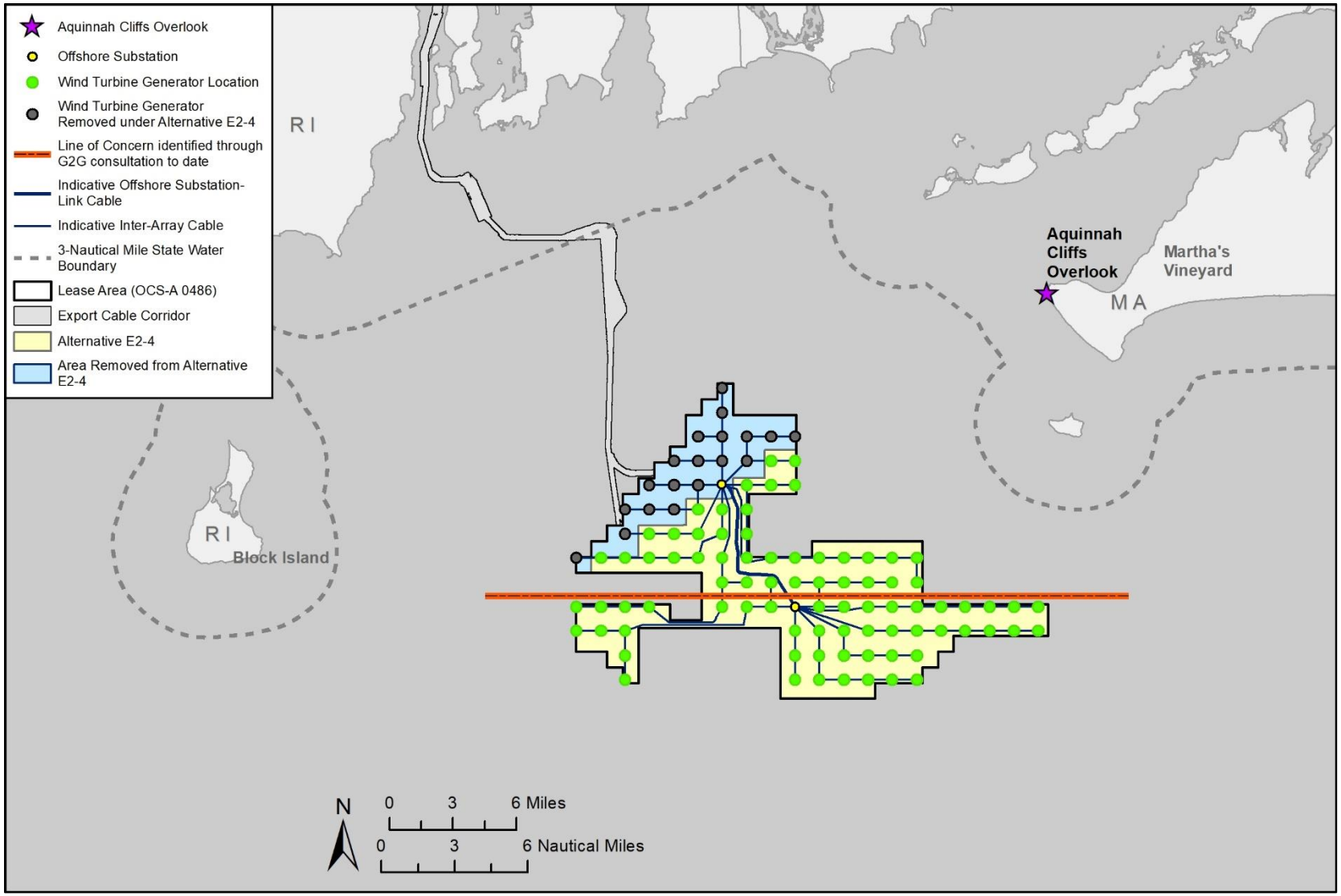

Figure K-12. Layout Alternative E2-4. Gray shaded wind turbine generator positions in the blue field are those that would be eliminated from consideration. 880-megawatt maximum output; removal of 23 wind turbine generator positions (leaves 77 positions available).

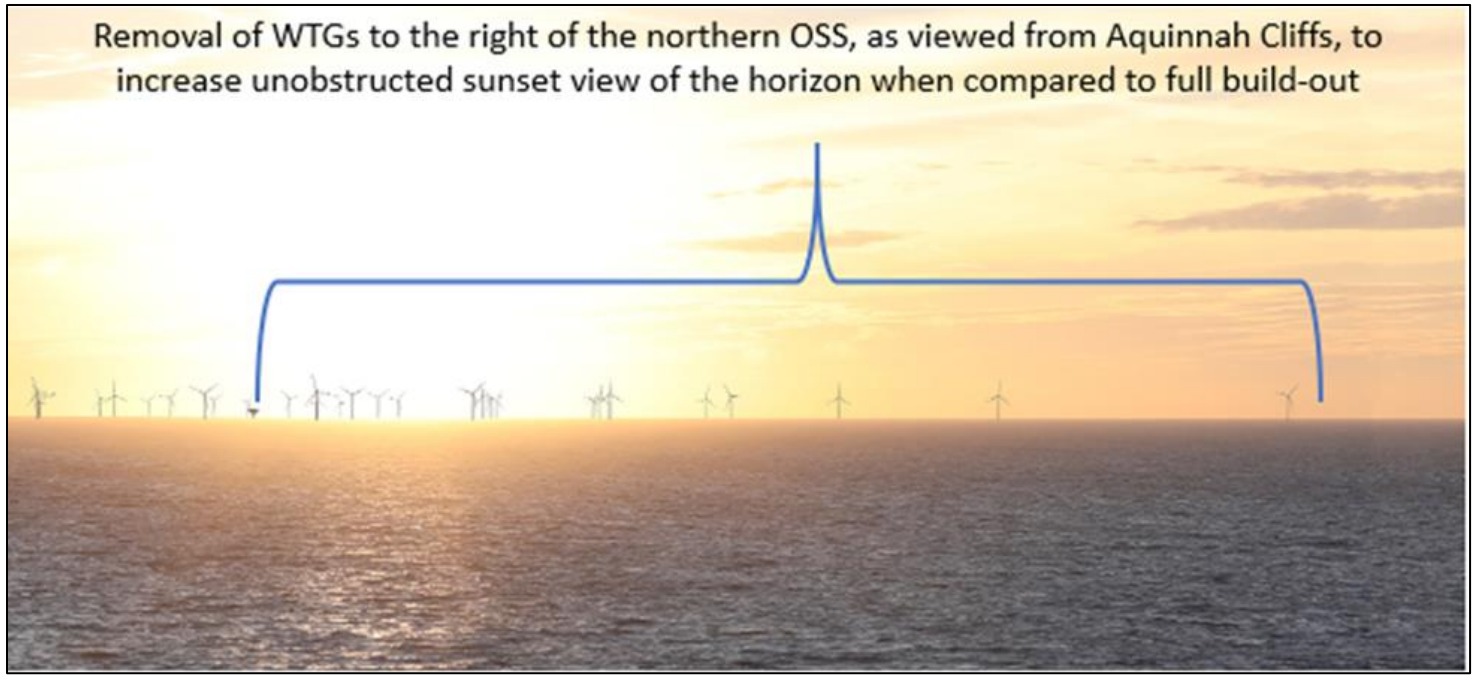

Figure K-13. Simulated sunset view facing the Project from Aquinnah Cliffs, indicating the wind turbine generator positions that would be removed under layout Alternative E2-4.

Alternative G: Habitat and Viewshed Minimization Hybrid Alternative (Preferred Alternative)

After carefully considering the EIS alternatives, including feedback and information received from the public, cooperating agencies, tribal nations, key stakeholder groups (e.g., commercial fishermen), and the applicant, BOEM has identified Alternative G (Habitat and Viewshed Minimization Hybrid Alternative), as the Preferred Alternative. Alternative G is a hybrid alternative combining elements of Alternatives C, D, and E. BOEM engaged their subject-matter experts within the Environmental Branch for Renewable Energy and the Engineering and Technical Review Branch, as well as the National Renewable Energy Laboratory, to review and advise on data and information received and considered in the development of Alternative G.

BOEM eliminated 21 WTG positions under Alternative G due to infeasibility (see gray dots in Figure K-14); 79 WTG positions remain from the up to 100 WTG positions available under the Proposed Action (see green dots in Figure K-14). Table K-1 provides latitude and longitude coordinates for the 79 WTG positions of Alternative G shown in Figure K-14.

Alternative G in comparison to the Proposed Action would reduce benthic habitat impacts in areas deemed critical by the NMFS (Alternative C), reduce transit and access impacts in areas of active marine use (Alternative D), reduce visual impacts to culturally important resources (Alternative E), and address design concerns voiced by the applicant, striking a reasonable balance between these varied resources.

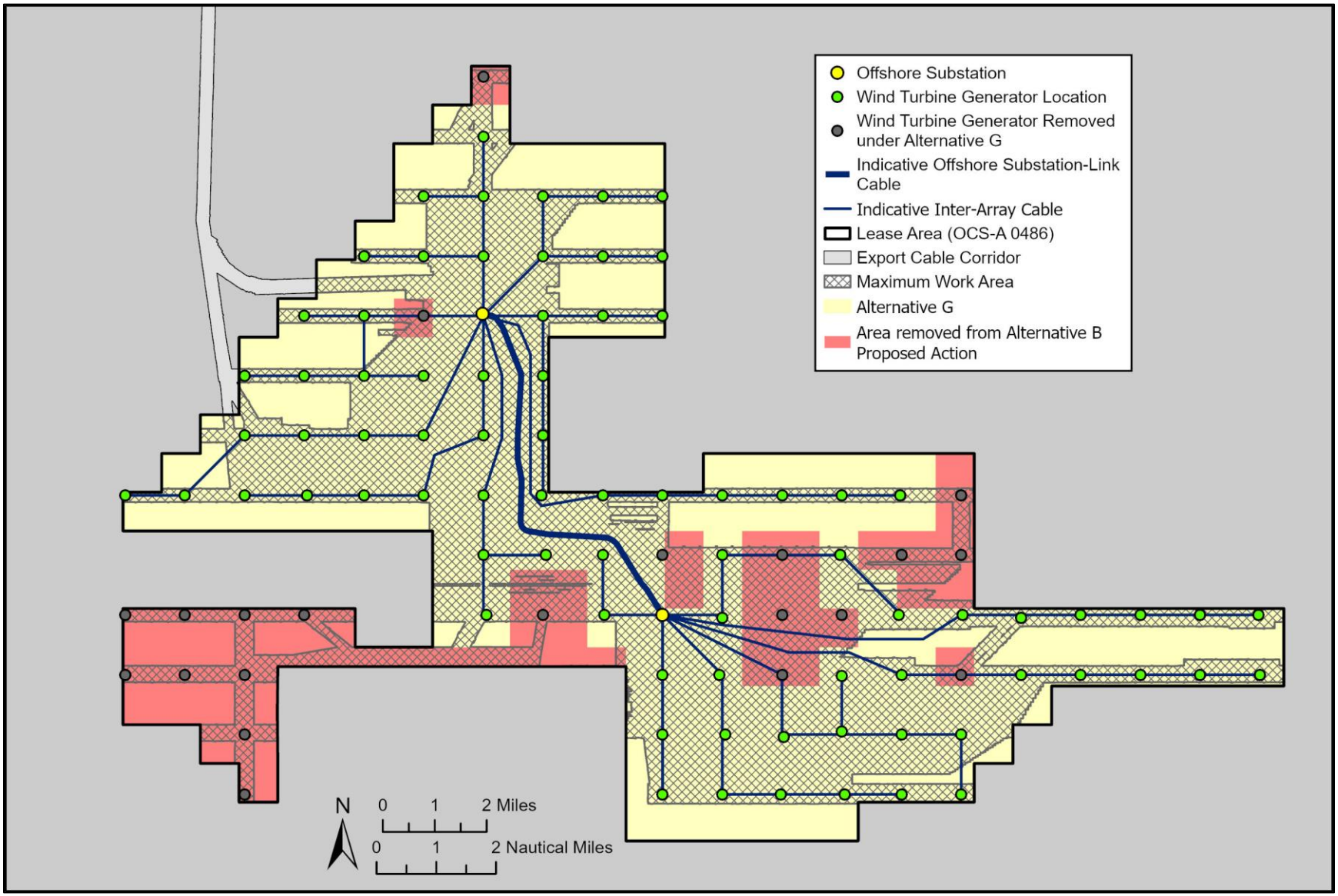

Figure K-14. Alternative G with 79 possible wind turbine generator positions.

Table K-1. Applicant Wind Turbine Generator Identification, Longitude and Latitude, and U.S. Coast Guard Wind Turbine Generator Identification for Alternative G

Applicant WTG Identification (ID)	Applicant WTG Short ID	Longitude (decimal degrees)	Latitude (decimal degrees)	U.S. Coast Guard Wind WTG ID
L045_65	65	-70.905013	41.130564	AL18
L045_66	66	-70.882961	41.130927	AL19
L045_67	67	-70.860908	41.131285	AL20
L045_73	73	-70.97067	41.112778	AM15
L045_75	75	-70.926578	41.113524	AM17
L045_76	76	-70.904531	41.113891	AM18
L045_77	77	-70.882484	41.114253	AM19
L045_78	78	-70.860437	41.114611	AM20
L045_79	79	-70.838389	41.114965	AM21
L045_62M	62M	-70.97224	41.129433	AL15
L045_63M	63M	-70.948582	41.129835	AL16
L045_64M	64M	-70.927042	41.129387	AL17
L045_68M	68M	-70.83939	41.131631	AL21
L045_72M	72M	-70.992703	41.111993	AM14
L055_2	2	-71.129836	41.260075	AC08
L055_3	3	-71.151382	41.242993	AD07
L055_4	4	-71.129295	41.243404	AD08
L055_6	6	-71.085119	41.244213	AD10
L055_8	8	-71.172916	41.225908	AE06
L055_9	9	-71.150835	41.226322	AE07
L055_10	10	-71.128754	41.226733	AE08
L055_11	11	-71.106672	41.227139	AE09
L055_12	12	-71.08459	41.227541	AE10
L055_14	14	-71.194439	41.208818	AF05
L055_15	15	-71.172364	41.209237	AF06
L055_17	17	-71.106137	41.210468	AF09
L055_18	18	-71.08406	41.21087	AF10
L055_20	20	-71.215951	41.191725	AG04
L055_21	21	-71.193882	41.192148	AG05
L055_22	22	-71.171813	41.192566	AG06

Applicant WTG Identification (ID)	Applicant WTG Short ID	Longitude (decimal degrees)	Latitude (decimal degrees)	U.S. Coast Guard Wind WTG ID
L055_24	24	-71.127673	41.193391	AG08
L055_25	25	-71.105602	41.193796	AG09
L055_26	26	-71.215389	41.175055	AH04
L055_28	28	-71.171262	41.175896	AH06
L055_29	29	-71.149198	41.17631	AH07
L055_30	30	-71.127133	41.176719	AH08
L055_31	31	-71.105068	41.177125	AH09
L055_32	32	-71.258941	41.157528	AJ02
L055_33	33	-71.236884	41.157958	AJ03
L055_34	34	-71.214827	41.158385	AJ04
L055_36	36	-71.170711	41.159225	AJ06
L055_37	37	-71.148653	41.159639	AJ07
L055_5	5	-71.107207	41.24381	AD09
L055_7	7	-71.063031	41.244611	AD11
L055_13	13	-71.062507	41.227939	AE11
L055_19	19	-71.061983	41.211267	AF11
L055_23	23	-71.149743	41.192981	AG07
L055_27	27	-71.193325	41.175477	AH05
L055_38	38	-71.126594	41.160048	AJ08
L055_40	40	-71.082474	41.160855	AJ10
L055_41	41	-71.060414	41.161251	AJ11
L055_42	42	-71.038353	41.161644	AJ12
L055_43	43	-71.016292	41.162033	AJ13
L055_44	44	-70.99423	41.162417	AJ14
L055_47	47	-71.126055	41.143377	AK08
L055_49	49	-71.081946	41.144183	AK10
L055_51	51	-71.037836	41.144972	AK12
L055_69	69	-71.058849	41.111235	AM11
L055_80	80	-71.058328	41.094563	AN11
L055_84	84	-70.970171	41.096105	AN15
L055_85	85	-70.948131	41.09648	AN16
L055_86	86	-71.057807	41.077891	AP11

Applicant WTG Identification (ID)	Applicant WTG Short ID	Longitude (decimal degrees)	Latitude (decimal degrees)	U.S. Coast Guard Wind WTG ID
L055_87	87	-71.035774	41.078282	AP12
L055_90	90	-70.969673	41.079432	AP15
L055_91	91	-70.947638	41.079806	AP16
L055_39M	39M	-71.10507	41.160444	AJ09
L055_45M	45M	-70.972704	41.162788	AJ15
L055_53M	53M	-70.994261	41.145735	AK14
L055_56M	56M	-71.124445	41.126725	AL08
L055_58M	58M	-71.080883	41.127521	AL10
L055_35M	35M	-71.191727	41.158827	AJ05
L055_48M	48M	-71.102959	41.143801	AK09
L055_70M	70M	-71.037846	41.111609	AM12
L055_81M	81M	-71.035248	41.094973	AN12
L055_82M	82M	-71.013444	41.09476	AN13
L055_83M	83M	-70.992235	41.096513	AN14
L055_88M	88M	-71.014276	41.07866	AP13
L055_59M	59M	-71.037296	41.127512	AL12
L055_89M	89M	-70.990666	41.079071	AP14

Alternatives G1, G2, and G3

In further considering the implementation of 11-MW WTGs under Alternative G, BOEM has deemed that up to an additional 14 WTG positions could be feasibly removed from the Project, resulting in 65 WTGs constructed, and the applicant would still be capable of meeting the capacity requirement of the PPAs, which would meet the purpose and need under the National Environmental Policy Act (NEPA). The 14 WTG positions would remain as part of Alternative G as "spares" for contingency and would only be constructed on a case-by-case basis to accommodate unforeseen siting conditions that render any of the 65 WTG installations impractical in terms of technical feasibility or due to environmental impact or safety concerns.

Two of the 65 WTGs have the flexibility to be located in three different spots within the 79 WTG positions (see Figures K-15, K-16, and K-17). As a result, Alternative G includes the analysis of three layouts (Alternatives G1, G2, and G3) for installation of the 65 WTGs as described below and shown in Figures K-15, K-16, and K-17. This flexibility in design could allow for further refinement for visual resources impact reduction or habitat impact reduction.

Alternative G1 maximizes the avoidance of complex benthic habitat and cod spawning areas within NMFS priority areas (see Figure K-16). Alternative G2 provides the greatest reduction of impacts to the sunset viewshed from key observation points on Martha's Vineyard, as well as to points along the Rhode

Island coastline (see Figure K-17). Alternative G3 provides the greatest reduction of impacts to the proximity to shore viewshed from Martha's Vineyard, as well as to points along the Rhode Island coastline (Figure K-18). All three configurations of Alternative G (G1, G2, G3) include the same reduction in WTGs to minimize navigation risks and conflicts with other competing space uses.

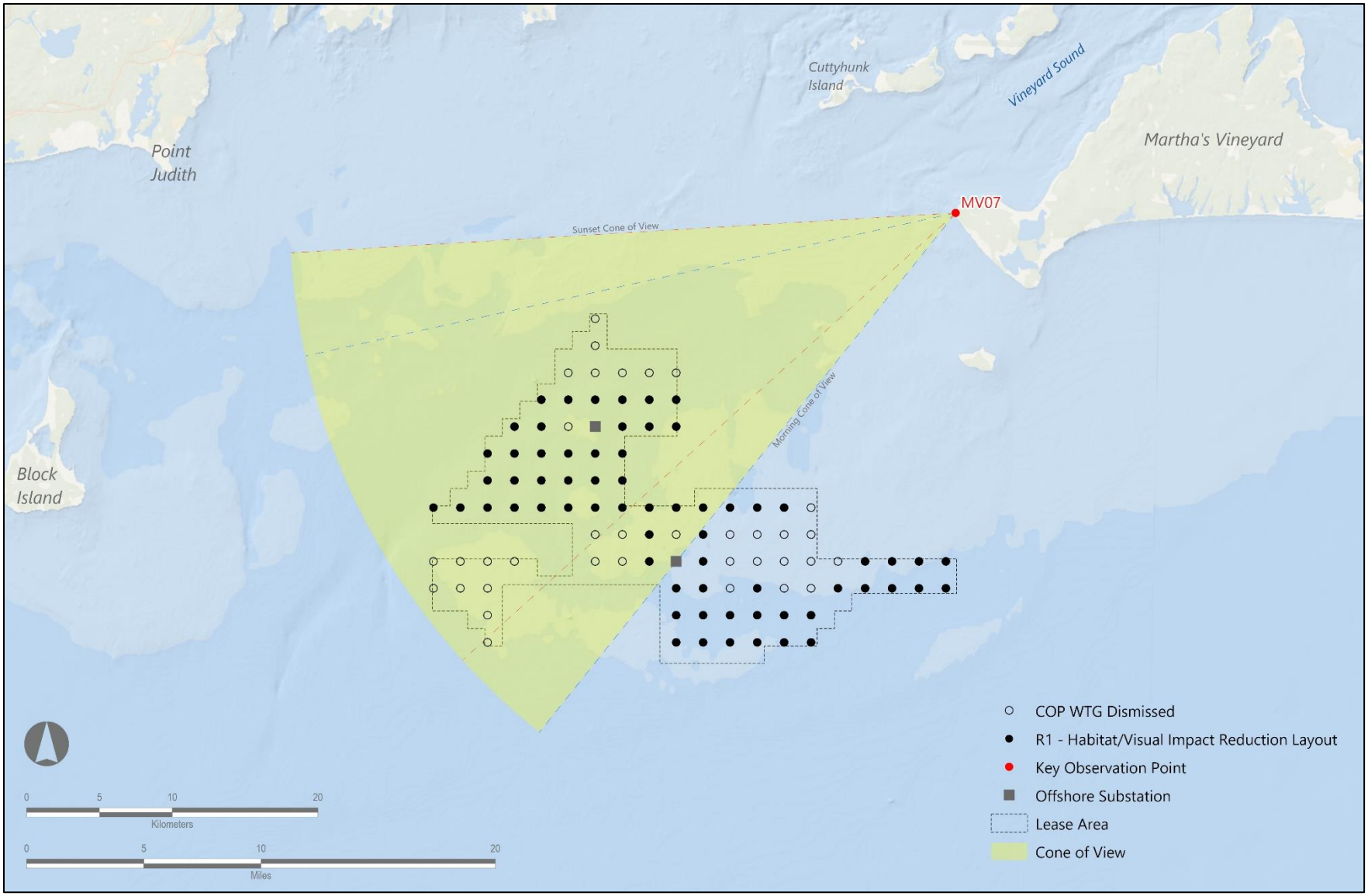

Figure K-15. Alternative G1 includes the installation of 65 wind turbine generators placed to maximize avoidance of complex habitat.

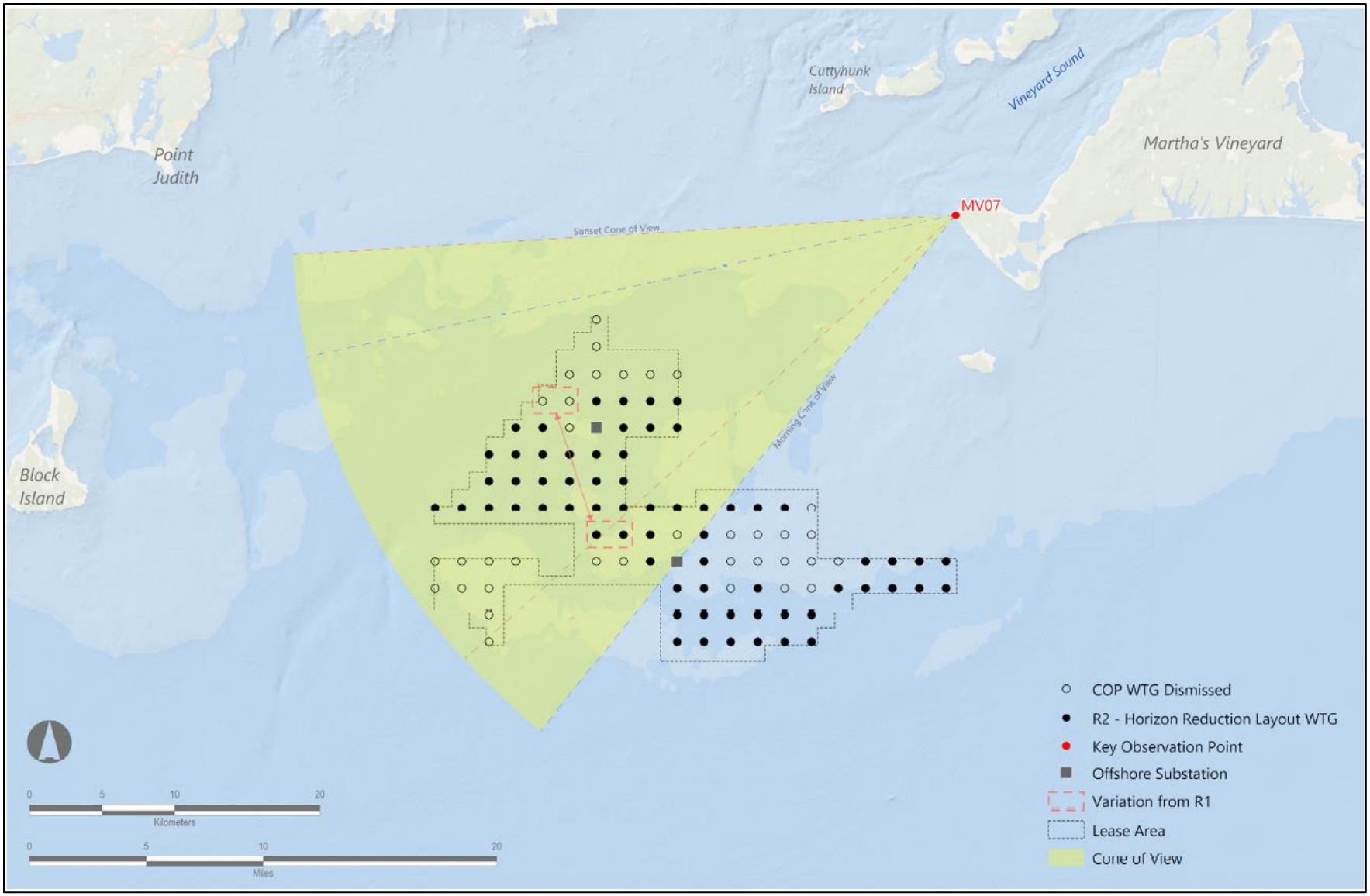

Figure K-16. Alternative G2 includes the installation of 65 wind turbine generators placed to reduce impacts on the sunset viewshed from Martha's Vineyard and from areas along the Rhode Island coastline.

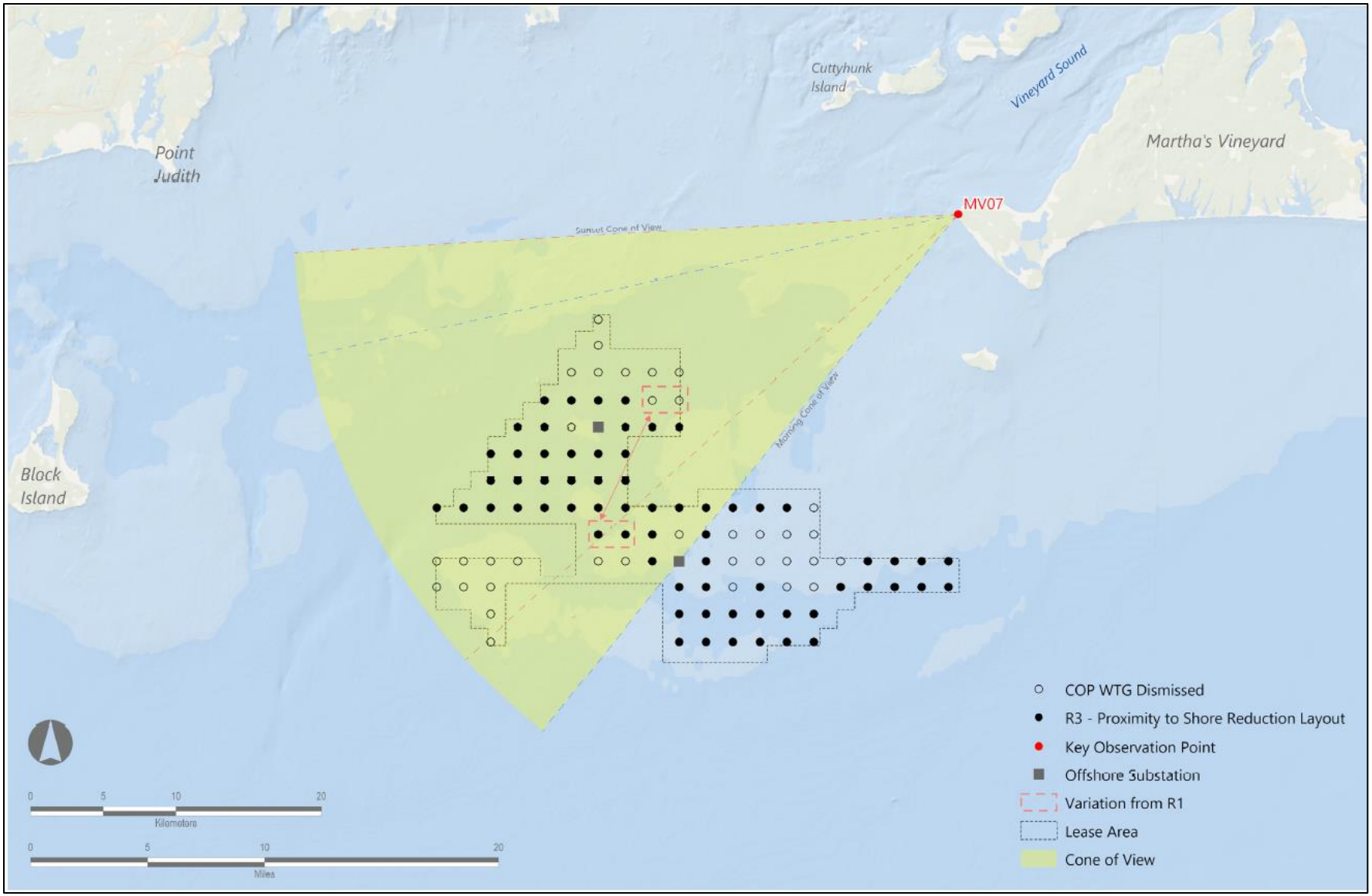

Figure K-17. Alternative G3 includes the installation of 65 wind turbine generators placed to reduce impacts to the proximity to shore viewshed from Martha's Vineyard and from areas along the Rhode Island coastline.

Alternatives G1, G2 and G3 strike a reasonable balance of addressing the primary environmental, socioeconomic, and technical feasibility concerns raised in public comments and identified during Draft and Final EIS development, including the following:

- Disturbance to essential fish habitat (EFH), including Cox Ledge, as well as disruption to Atlantic cod spawning
- Maximize the avoidance and minimization principles for habitat and species protection
- Navigation safety
- Visual impacts to culturally important resources
- Lost revenues to certain commercial and for-hire fisheries due to displacement from preferred fishing grounds, as well as concerns on damaged or lost fishing gear
- Timely implementation of the Project to promote economic growth and create jobs
- Implementation of mitigation and monitoring measures to reduce impacts to fisheries, threatened and endangered species, birds, bats, cultural, and tribal resources

Across all action alternatives, including Alternatives G1, G2 and G3, the WTGs and IAC routes would be microsited to avoid boulder fields, large individual boulders, unexploded ordnance and marine archaeological exclusion zones, difficult terrain and soil conditions, survey coverage, existing infrastructure, and other offshore installation and operation activities to the maximum extent practicable. Figure K-18 provides an example layout with microsited WTGs and IACs.

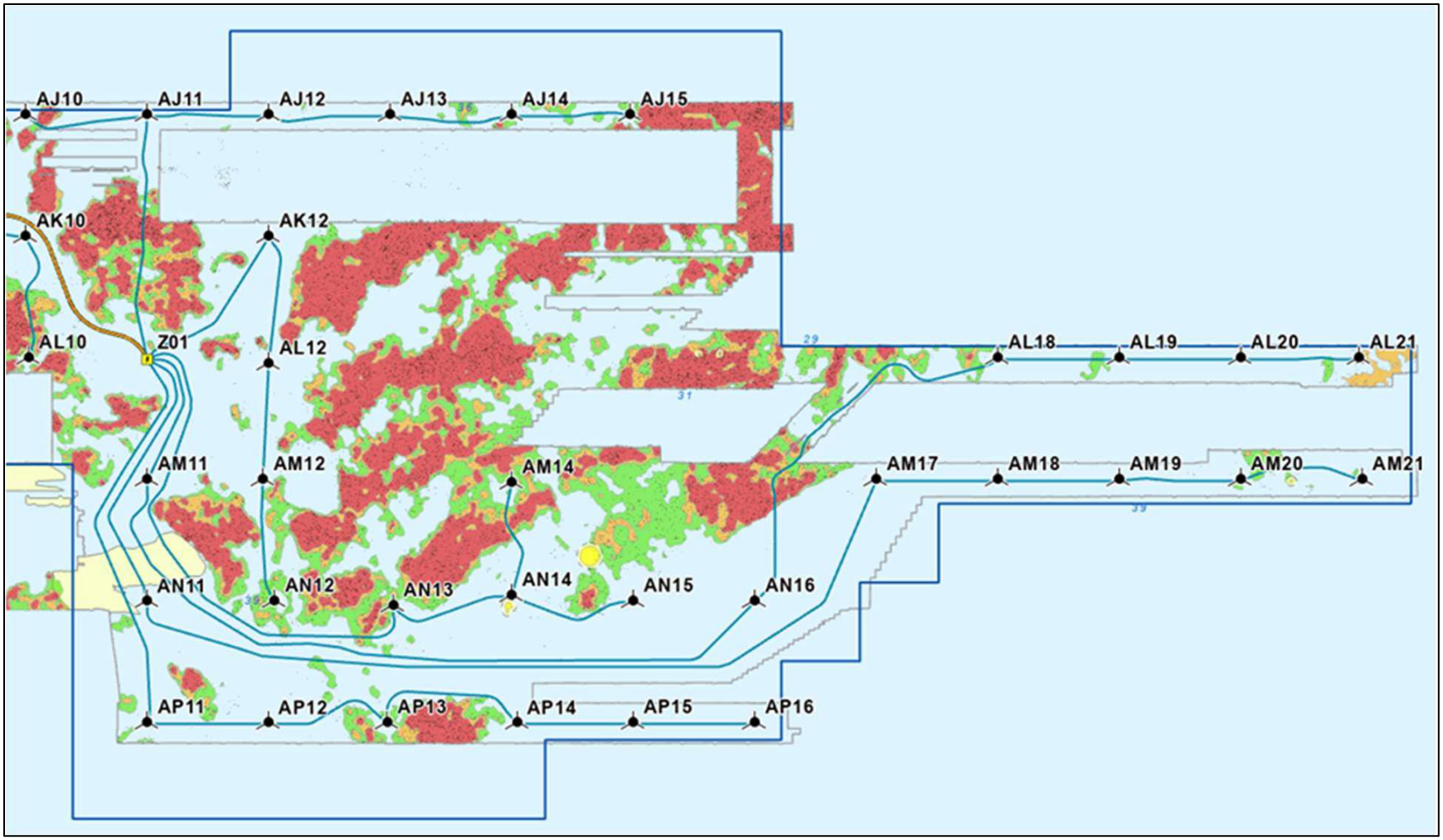

Figure K-18. Example microsited wind turbine generators and inter-array cable routes to avoid boulders, complex benthic habitat, unexploded ordnance, marine archaeological resources, and other engineering constraints.

In summary, Alternative G as defined by BOEM would include the construction, operations and maintenance, and eventual decommissioning of 65 WTGs within 79 possible WTGs positions (as illustrated in Alternatives G1, G2, and G3) at a capacity of 11 MW and up to two offshore substations within Lease Area OCS-A 0468. The Alternative G export cables would extend from Lease Area OCS-A 0468 to the mainland, making landfall in North Kingstown, Rhode Island see (Figure K-14). Like the other action alternatives analyzed in the EIS, Alternative G would occur within the range of design parameters outlined in the COP and is subject to applicant-committed environmental protection measures as well as possible additional agency-proposed mitigation measures to avoid or reduce impacts.

Alternatives C, D, E, and F: Feasibility Analysis Updates

Feasibility Analysis Update for Alternatives C1, C2, D1+D2, D1+D2+D3, E1, E2, and F

BOEM received additional information from Revolution Wind regarding 1) geotechnical feasibility for Alternatives C1, C2, D1+D2, D1+D2+D3, E1, and E2, and 2) WTG model availability for Alternative F. In response, BOEM conducted an independent review of the information, including engagements with National Renewable Energy Laboratory, the Engineering and Technical Review Branch, and BOEM's Economics Division. A summary of BOEM's findings is below.

Geotechnical Feasibility for Alternatives C1, C2, D1+D2, D1+D2+D3, E1, and E2

Revolution Wind provided geotechnical feasibility and electrical engineering information and analysis regarding 21 of the 100 WTG positions included in the Proposed Action. BOEM's independent review confirmed that the 21 WTG positions identified by Revolution Wind are technically and economically infeasible for use in the RWF, as follows:

- Alternatives C1 and C2 relied on the use of 11 WTG positions that are infeasible for use in the RWF. Without those 11 WTG positions, the RWF would not have enough WTGs to meet its PPAs. Alternative C1 would have only 54 WTGs and Alternative C2 would have only 53 WTGs when 65 are needed for the PPAs. Alternatives D1 through D3 are still feasible *if selected individually*. However, Alternatives D1+D2 together would be infeasible because the RWF would not have enough WTGs to meet its PPAs. Alternatives D1+D2 together would only have 64 WTGs when 65 are needed for the PPAs.
- Similarly, Alternatives D2+D3 together would be infeasible because the RWF would not have enough WTGs to meet its PPAs. Alternatives D2+D3 together would only have 64 WTGs when 65 are needed for the PPAs.
- Alternatives D1+D2+D3 together would be infeasible because the RWF would not have enough WTGs to meet its PPAs. Alternatives D1+D2+D3 together would only have 59 WTGs when 65 are needed for the PPAs.
- Alternative E1 relied on the use of 16 WTG positions that are infeasible for use in the RWF. Without those 16 WTG positions, the RWF would not have enough WTGs to meet its PPAs. Alternative E1 would only have 48 WTGs when 65 are needed for the PPAs.

- Alternative E2 relied on the use of 19 WTG positions that are infeasible for use in the RWF. Without those 19 WTG positions, the RWF would not have enough WTGs to meet its PPAs. Alternative E2 would only have 62 WTGs when 65 are needed for the PPAs.

Wind Turbine Generator Model Availability for Alternative F

Alternative F (Selection of a Higher Capacity Wind Turbine Generator) contains the following qualifier:

- The higher capacity WTG would fall within the physical design parameters of the PDE and be commercially available to the Project proponent within the time frame for the construction and installation schedule proposed in the COP.

Revolution Wind selected Siemens Gamesa as their WTG manufacturer. Siemens Gamesa verified in a signed letter that no WTG models with a nameplate capacity larger than 11 MW were available for use in the RWF (Revolution Wind 2022a). Specifically,

> … however, after evaluating the anticipated installation schedules and required certification timelines; as well as a lack of production capacity available from Siemens Gamesa, the change in platform was, and is still not a possibility. (Revolution Wind 2022a)

While preparing the Final EIS, BOEM conducted its own market research regarding other potentially available WTG models for the RWF and found that there are no models available with a larger capacity than the 11-MW model selected by Revolution Wind. The U.S. Department of Energy's *Offshore Wind Market Report: 2022 Edition* identifies General Electric (GE), Siemens Gamesa, and Vestas as the three manufacturers of WTGs that could theoretically be available for the Project under Alternative F (U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy 2022). However, GE's Haliade-X WTG is currently unavailable because it is "subject to a permanent injunction, issued Sept. 7, 2022, which bars the U.S. firm from selling the 12-MW to 14-MW megaturbine in the American market, except for exemptions granted for the Vineyard Wind 1 project off Massachusetts and the Ocean Wind project off southern New Jersey" (Powers 2022). Given the uncertainty regarding the future availability of the GE model and the length of time needed to order WTGs and prepare WTG-specific engineering, BOEM determined the Haliade-X is not economically feasible for consideration under Alternative F. Finally, the Vestas WTG has a rotor diameter that is larger (236 m) than the PDE for the RWF (220 m), rendering it inconsistent with the parameters for the alternative established in the Draft EIS (Vestas 2023).

U.S. Army Corps of Engineers Section 404: Export Cable Route Alternatives Analysis Information

The EPA's Section 404(b)(1) guidelines can be found at 40 Code of Federal Regulations [CFR] 230 and apply to the U.S. Army Corps of Engineers' (USACE's) review of proposed discharges of dredged or fill material into waters of the United States (WOTUS) regulated under Section 404 of the Clean Water Act. In tidal waters, the shoreward limit of Section 404 jurisdiction is the high tide line, whereas the seaward limit is 3 nautical miles (nm) from the baseline of the territorial seas. In non-tidal waters, the Section 404 jurisdictional limit is the ordinary high-water mark of a waterbody. The guidelines also address impacts to special aquatic sites (SAS) identified in 40 CFR 230 subpart E. SASs are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other

important and easily disrupted ecological values. SASs include wetlands, sanctuaries and refuges, vegetated shallows (such as eelgrass), mud flats, coral reefs, and riffle and pool complexes.

Except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have fewer adverse impacts on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in 40 CFR 230 subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not ‘‘water dependent’’), practicable alternatives that do not involve SASs are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for an SAS, all practicable alternatives to the proposed discharge that do not involve a discharge into an SAS are presumed to have fewer adverse impacts on the aquatic ecosystem, unless clearly demonstrated otherwise.

For the proposed RWF, the USACE has determined that the basic Project purpose is offshore wind energy generation. The following information on alternatives was provided to the USACE by the applicant and will be analyzed by the USACE according to the appropriate criteria in the guidelines in order to determine whether the applicant’s proposed discharge complies with the guidelines.

Summary of Alternatives Considered

Revolution Wind evaluated combinations of nine potential export cable routes connecting the RWF with the mainland at five different landing locations (Figure K-19 and Figure K-20). Table K-2 provides a summary of cable routes considered and their potential impacts of concern to the USACE. The sections following Figure K-19, Figure K-20, and Table K-2 provide summaries of the nine export cable route evaluations.

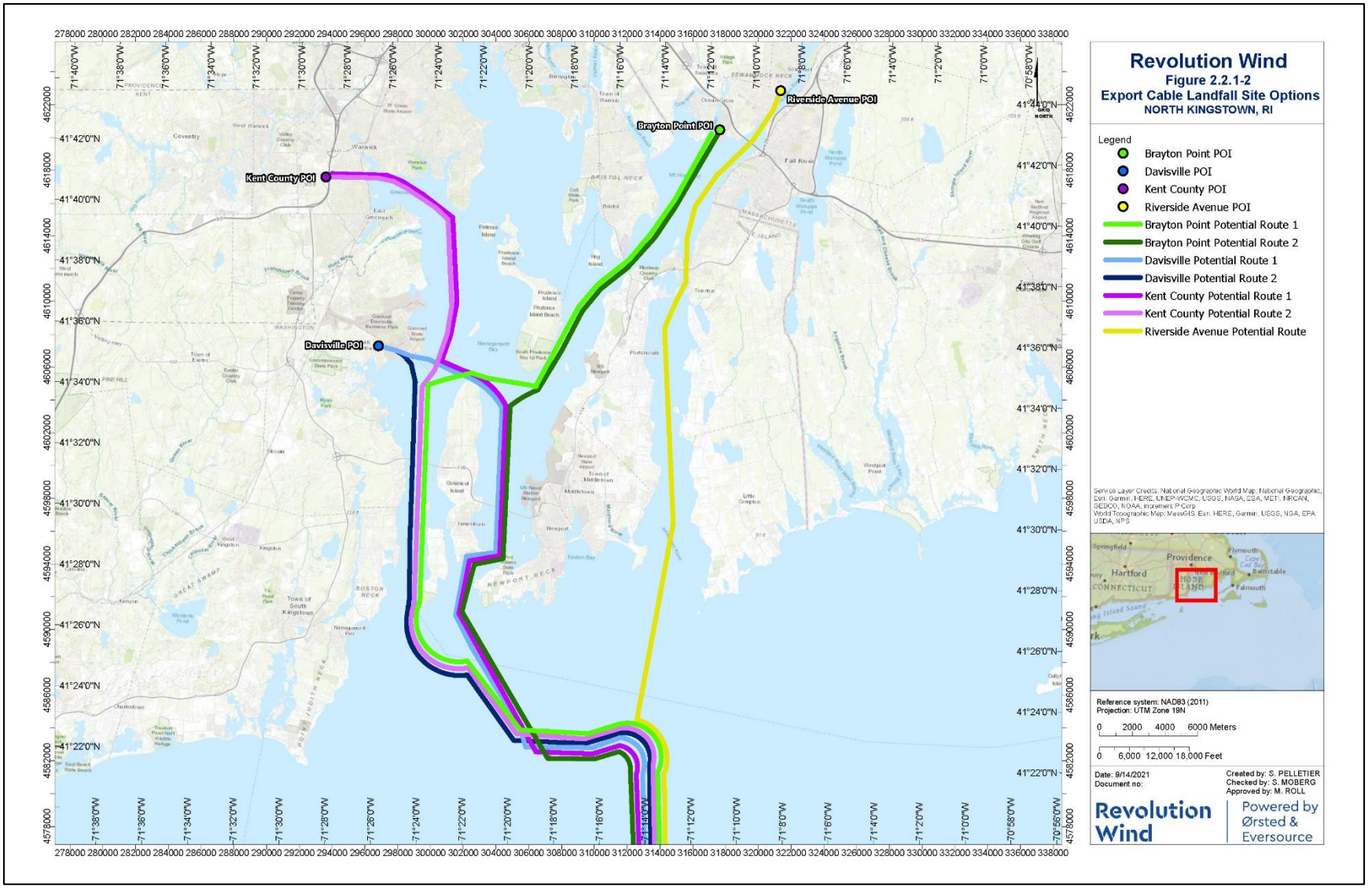

Figure K-19. Cable routes and landing sites considered (Brayton Point Routes 1 and 2, Riverside Avenue Route, Kent County Routes 1 and 2, Davisville Routes 1 and 2).

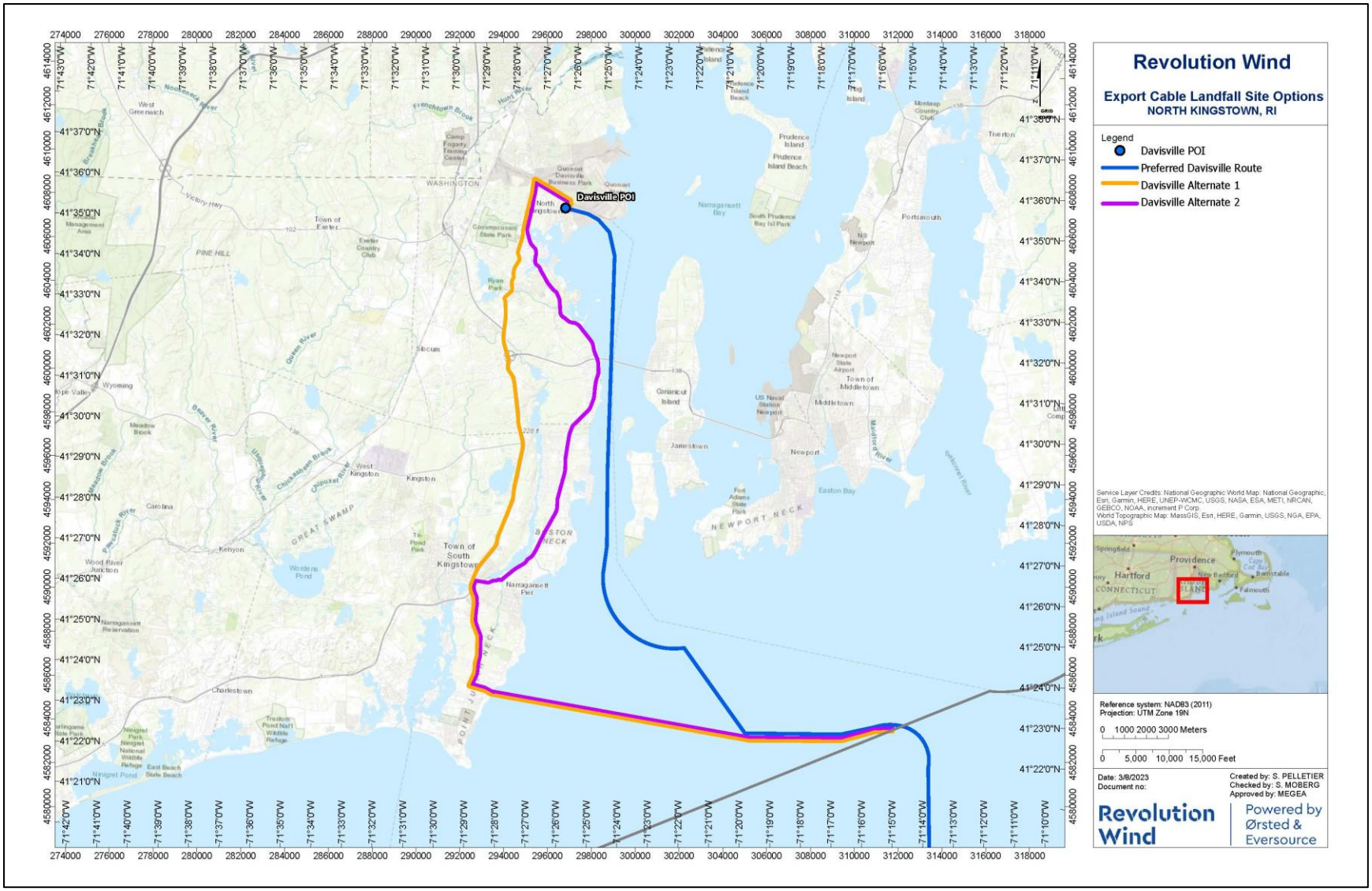

Figure K-20. Cable routes and landing sites considered (selected Davisville Route 2 and Davisville Over Land Alternates 1 and 2).

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Table K-2. Summary of Cable Routes Considered

Factors	No Action Alternative	Brayton Point Route 1	Brayton Point Route 2	Riverside Avenue Route	Kent County Route 1	Kent County Route 2	Davisville Route 1	Davisville Route 2 (Selected)	Davisville Over Land Alternate 1	Davisville Over Land Alternate 2
Linear feet of cable[*, †, ‡]	0	379,104	307,296	272,448	305,184	316,800	221,760	242,880	121,440	121,440
Amount of redeposition of dredge material from horizontal directional drilling pits (square feet)[§]	0	41,290	41,290	41,290	41,290	41,290	41,290	41,290	41,290	41,290
Amount of fill material (acres)[¶]	0	61.1	54.1	47.9	53.7	50.2	39.0	32.9	5.4	5.4
Wetland impacts (square feet)	0	0	0	0	30,000[††] fresh water	30,000[††] fresh water	0[**]	0[**]	13,476[##] fresh water	139,470[#] (54,547 fresh water and 84,923 tidal)
Impacts to other SASs (square feet)[‡‡]	0	0	0	0	0	0	0	0	0	0
Other concerns	N/A	Northern long-eared bat (NLEB)[§§]	U.S. Department of Defense (DOD) use conflicts NLEB[§§]	N/A	DoD use conflicts NLEB[§§] Submerged cultural resources[¶¶]	NLEB[§§] Submerged cultural resources[¶¶]	DOD use conflicts NLEB[§§]	NLEB[§§]	USCG and DOD use conflicts NLEB[§§] High cost of overland construction Need to obtain multiple real estate easements	USCG and DOD use conflicts NLEB[§§] High cost of overland construction Need to obtain multiple real estate easements
Reasons for non-selection	Does not meet purpose and need	Longest cable length Highest amount of fill in tidal waters	Cable length Fill amount DOD use conflicts	Cable length Fill amount	Wetland fill DoD use conflicts Cable length Fill amount Submerged cultural resources	Wetland fill Cable length Fill amount Submerged cultural resources	Fill Amount DOD use conflicts	N/A	Wetland fill USCG/DOD use conflicts Cost Project delays due to need for multiple real estate easements	Wetland fill USCG/DOD use conflicts Cost Project delays due to need for multiple real estate easements

Source: Revolution Wind (2023).

[*] Excludes onshore export cable segments.

[†] Distances reported from state waters boundary to landfall.

[‡] Distances reported in linear feet are inclusive of both export cable circuits.

[§] Assumes all export cable landfalls achieved by use of horizontal directional drilling methodology.

[¶] Approximate fill depths of 1 foot are anticipated from secondary cable protection. Fill is limited to secondary cable protection. Acreages shown include fill anticipated for cable crossings. Cable installation method is such that displaced material is incidental fallback; therefore, cable installation not subject to Section 404 review.

[#] Based on data obtained from MassGIS OLIVER online mapping tool, accessed September 2018.

[**] Up to 4,370 square feet of proposed tree clearing activities at Davisville Routes 1 and 2 are not considered to be wetland impacts as described in the "No Permit Required" letter issued by the USACE on February 11, 2022. No discharge of fill materials is proposed.

[††] Approximate area based on assumed Project substation footprint 150 × 200 feet. Existing site constraints would require the substation to be built in wetlands.

[‡‡] Data from Narragansett Bay National Estuarine Research Reserve (2009).

[§§] Within northern long-eared bat habitat range.

[¶¶] Data from Morissette (2014).

Fill impacts associated with cable installation.

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Brayton Point Route 1

The Brayton Point Route 1 (BPR1) export cable route would run from the Lease Area north into Narragansett Bay through the Lower West Passage between the towns of Jamestown, Narragansett, and North Kingstown, Rhode Island. The route would then pass through the Upper East Passage between Aquidneck Island and Prudence Island into Mount Hope Bay and terminate on the west side of Brayton Point in Somerset, Massachusetts. The BPR1 export cable route would be approximately 189,552 linear feet from the 3-nm limit of state waters to the landfall at Brayton Point.

- Revolution Wind assumed that a landfall at any potential location would be accomplished using horizontal directional drilling (HDD) techniques. This would require the excavation of two HDD exit pits in subtidal waters. The redeposition of the dredged material back into the pits at the conclusion of the HDD work would constitute a fill impact regulated under Section 404 of the Clean Water Act. The exit pits would total 41,290 square feet.
- Fill in subtidal WOTUS is limited to secondary cable protection where installation of the export cable may not reach target burial depth and cable protection is deemed warranted based on site specific conditions. Additionally, cable protection is anticipated for cable crossings of existing assets. Approximate fill depths of 1 foot are anticipated from secondary cable protection. Approximately 61.1 acres of secondary cable protection is anticipated for BPR1. The proposed impacts involve subtidal waters only. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- Revolution Wind performed a desktop review of available information regarding onshore freshwater wetlands subject to Section 404 jurisdiction. No Section 404 wetlands are present at the point of interconnection to the regional transmission grid, and consequently, no wetland impacts are associated with the BPR1 project substation.

BPR1 was excluded from further consideration based on having the greatest overall cable length and requiring the greatest amount of fill in tidal WOTUS.

Brayton Point Route 2

The Brayton Point Route 2 (BPR2) export cable route would run from the Lease Area north into Narragansett Bay through the Lower East Passage between the towns of Jamestown and Newport and Middletown, Rhode Island, on Aquidneck Island. The route would then pass through the Upper East Passage between Aquidneck Island and Prudence Island into Mount Hope Bay and terminate on the west side of Brayton Point in Somerset, Massachusetts. The BPR2 export cable route would be approximately 153,648 linear feet from the 3-nm limit of state waters to the landfall at Brayton Point.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along BPR2 is 54.1 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.

- Similar to BPR1, no Section 404 wetlands are present at the point of interconnection to the regional transmission grid, and consequently, no wetland impacts are associated with the BPR2 Project substation.
- Beginning in 2018, Revolution Wind consulted with the United States Navy (Department of Defense [DOD]) regarding the potential for siting an export cable in the Lower East Passage. Although the DOD did not issue correspondence to Revolution Wind denying the use of the East Passage as a potential export cable route, their preference for avoiding siting a cable in the East Passage was expressed consistently during a series of meetings occurring in 2018 and 2019. Consequently, Revolution Wind focused its attention on identifying and engineering a preferred export cable route in the West Passage of Narragansett Bay (Revolution Wind 2022b). This constraint applies to any export cable route option occupying the Lower East Passage.

BPR2 was excluded from further consideration based on DOD use conflicts and based on having a longer cable route and requiring a higher amount of fill in tidal WOTUS than several other routes, including the Project proponent's selected route.

Riverside Avenue Route

The Riverside Avenue Route (RAR) export cable would run from the Lease Area north into Narragansett Bay through the Sakonnet River between Aquidneck Island and the Towns of Little Compton and Tiverton, Rhode Island, into Mount Hope Bay. The RAR export cable would continue north through Mount Hope Bay into the Taunton River between the town of Somerset and the city of Fall River, Massachusetts, and terminate near the former Montaup Power Plant on the east side of Somerset. The RAR export cable route would be approximately 136,224 linear feet from the 3-nm limit of state waters to the landfall at Montaup.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along RAR is 47.9 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- Similar to BPR1, no Section 404 wetlands are present at the point of interconnection to the regional transmission grid, and consequently, no wetland impacts are associated with the RAR Project substation.

RAR was excluded from further consideration based on having a longer cable length and requiring a higher amount of fill in tidal WOTUS than several other routes, including the Project proponent's selected route.

Kent County Route 1

The Kent County Route 1 (KCR1) export cable route would run from the Lease Area north into Narragansett Bay through the Lower East Passage between the towns of Jamestown and Newport and Middletown, Rhode Island, on Aquidneck Island. The route would then pass through the Upper West Passage between Prudence Island and the town of North Kingstown, town of East Greenwich, and the city of Warwick, Rhode Island, and terminate near Chipewanoxet Point in Warwick, Rhode Island. The KCR1

export cable route would be approximately 152,592 linear feet from the 3-nm limit of state waters to the landfall at Chipewanoxet Point.

- 41,290 square feet of subtidal impacts are anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along KCR1 is 53.7 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- For the Kent County routes, the point of interconnection to the regional transmission grid is The Narragansett Electric Company (TNEC) Kent County Substation. The substation site is bordered by wetland resource areas on the north, west, and south, and by Interstate 95 on the east. Revolution Wind concluded based on these constraints that the Project substation would need to be built in Section 404 jurisdictional wetlands. Based on an assumed Project substation footprint of 150 × 200 feet, the KCR1 export cable route would result in 30,000 square feet of impacts to Section 404 wetlands.
- The DOD expressed a preference to avoid the Lower East Passage due to potential use conflicts.
- During its preliminary cable routing analysis, Revolution Wind identified the potential for significant pre-Contact submerged cultural resource constraints within Greenwich Bay (Morissette 2014), making either Kent County export cable route less desirable.

KCR1 was excluded from further consideration based on wetland impacts, the potential for greater impacts to submerged cultural resources, DOD use conflicts, and having a longer cable length and requiring more fill in tidal WOTUS than some other routes, including the proponent's selected route.

Kent County Route 2

The Kent County Route 2 (KCR2) export cable route would run from the Lease Area north into Narragansett Bay through the Lower West Passage between the towns of Jamestown, Narragansett, and North Kingstown, Rhode Island. The route would then pass through the Upper West Passage between Prudence Island and the town of North Kingstown, town of East Greenwich, and the city of Warwick, Rhode Island, and terminate near Chipewanoxet Point in Warwick, Rhode Island. The KCR2 export cable route would be approximately 158,400 linear feet from the 3-nm limit of state waters to the landfall at Chipewanoxet Point.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along KCR2 is 50.2 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- Similar to KCR1, because of existing wetland constraints at the Kent County Substation, the KCR2 export cable route would result in 30,000 square feet of impacts to Section 404 wetlands.
- There are potential submerged cultural resources within Greenwich Bay.

KCR2 was excluded from further consideration based on wetland impacts, the potential for greater impacts to submerged cultural resources, and having a longer cable length and requiring a higher amount of fill in tidal WOTUS than some other routes including the proponent's selected route.

Davisville Route 1

The Davisville Route 1 (DR1) export cable route would run from the Lease Area north into Narragansett Bay through the Lower East Passage between the towns of Jamestown, Newport, and Middletown, Rhode Island, on Aquidneck Island and terminate at the south side of Quonset Point in North Kingstown, Rhode Island. The DR1 export cable route would be approximately 110,880 linear feet from the 3-nm limit of state waters to the landfall at Quonset Point.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along DR1 is 39.0 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- DR1 avoids impacts to onshore freshwater wetlands.
- The DOD expressed a preference to avoid the Lower East Passage due to use conflicts.

DR1 was excluded from further consideration based on DOD use conflicts and because it would require a higher amount of fill in tidal waters than the proponent's selected route.

Davisville Route 2 (Selected)

The Davisville Route 2 (DR2) export cable route would run from the Lease Area north into Narragansett Bay through the Lower West Passage between the towns of Jamestown, Narragansett, and North Kingstown, Rhode Island, and terminate at the south side of Quonset Point in North Kingstown, Rhode Island. The DR2 export cable route would be approximately 121,440 linear feet from the 3-nm limit of state waters to the landfall at Quonset Point.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along DR2 is 32.9 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- DR2 avoids impacts to onshore freshwater wetlands .
- DR2 avoids potential DOD/USCG use conflicts.

DR2 was selected by the Project applicant based on the avoidance of wetland impacts and DOD/USCG use conflicts. Moreover, the potential for major Project delays associated with Davisville Over Land Alternates 1 and 2 would likely render those alternatives inconsistent with the purpose and need for the Project because they would negate the applicant's ability to meet their offtake agreement terms. The DR2 route is used in all action alternatives analyzed in this EIS.

Davisville Over Land Alternate 1

The Davisville Over Land Alternate 1 (DA1) export cable route would run from the Lease Area north into Narragansett Bay and terminate at Scarborough State Beach in Narragansett, Rhode Island. The DA1 export cable route would be approximately 60,720 linear feet from the 3-nm limit of state waters to the landfall at Narragansett. Onshore, the underground ductbank would follow existing paved roadways (Burnside Road, State Route 108, and U.S. Route 1) in the towns of Narragansett, South Kingstown, and North Kingstown before joining the TNEC 115-kilovolt (kV) Davisville Transmission Tap right-of-way (ROW) and would follow the TNEC ROW to the Davisville Substation for an overall onshore distance of approximately 17 miles (89,760 linear feet). Between the Davisville Substation and the Project's onshore substation, the underground ductbank would be co-located in the overhead ROW.

Construction of DA1 would impact 13,476 square feet of palustrine scrub-shrub and palustrine forested wetland primarily along the Davisville Transmission Tap ROW. The DA1 export cable route would cross the USCG traffic separation scheme entering the bay and a DOD torpedo testing range.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along the selected route is 5.4 acres. No fill impacts to tidal SASs, including salt marsh, mudflat, and eelgrass, are proposed.
- DA1 would result in 13,476 square feet (0.3 acre) of impacts to onshore freshwater wetlands. No fill impacts to tidal SAS- including salt marsh, mudflat, and eelgrass- are proposed.
- DA1 would cross the USCG traffic separation scheme entering the bay and would cross a DOD torpedo testing range, thereby creating potential DoD/USCG use conflicts.
- DA1 would have the second highest construction cost due to the length of the onshore route and would be estimated to cost 60% more than Davisville Route 2.
- DA1 would have difficult constructability issues due to its location along high traffic, limited access roadways.
- The cable installation work for DA1 would take much longer than for the cable routes that are primarily located in the water, which would cause a major delay in the completion of the Project.
- DA1 would require that the Project proponent obtain real estate easements from state and local entities, which would cause a major delay in the implementation of this alternative.

DA1 was excluded from further consideration based on wetland impacts, potential DOD/USCG use conflicts, major delays in Project implementation based on the need to obtain real estate easements from state and local entities, and higher construction costs and a much longer construction timeframe than the proponent's selected alternative.

Davisville Over Land Alternate 2

The Davisville Over Land Alternate 2 (DA2) export cable route would run from the Lease Area north into Narragansett Bay and terminate at Scarborough State Beach in Narragansett, Rhode Island. The DA1

export cable route would be approximately 60,720 linear feet from the 3-nm limit of state waters to the landfall at Narragansett. Onshore, the underground ductbank would follow existing paved roadways (Burnside Road, State Route 108, and U.S. Route 1) in the towns of Narragansett, South Kingstown, and North Kingstown before joining a TNEC 34.5-kV distribution ROW. At that point, it would follow the TNEC distribution ROW cross country to the Davisville Transmission Tap ROW, then follow the Davisville Transmission Tap ROW to the Davisville Substation for an overall onshore distance of approximately 18.8 miles (99,264 linear feet). Between the Davisville Substation and the Project's onshore substation, the underground ductbank would be co-located in the overhead ROW.

Construction of DA2 would impact 144,262 square feet of palustrine scrub-shrub and forested and estuarine emergent wetland. The DA2 export cable route would cross the USCG traffic separation scheme entering the bay and a DOD torpedo testing range.

- 41,290 square feet of subtidal impacts is anticipated for the redeposition of dredged material back into the two HDD exit pits.
- Fill anticipated in subtidal WOTUS associated with secondary cable protection along the selected route is 5.4 acres.
- DA2 would result in 139,470 square feet (3.2 acres) of fill impacts to wetlands (1.25 acres of freshwater wetlands and 1.95 acres of tidal wetlands) related to the cable installation along the overland route. There would also be 1,269 square feet (0.03 acre) of fill impacts to a freshwater pond and 3,523 square feet (0.08 acre) of fill impacts to tidal waters.
- DA2 would cross the USCG traffic separation scheme in the bay and would cross a DOD torpedo range, thereby creating potential USCG/DOD use conflicts.
- DA2 would have the highest construction cost of any of the alternatives due to having the greatest length of onshore route and would cost approximately 75% more than Davisville Route 2.
- DA2 would have difficult constructability issues due to its location along a cross-country utility ROW with multiple wetland and waterway crossings.
- The cable installation work for DA1 would take much longer than for the cable routes that are primarily located in the water, which would cause a major delay in the completion of the project.
- DA2 would require that the Project proponent obtain real estate easements from state and local entities, TNEC, and potentially private property owners, which would cause a major delay in implementation of this alternative.

DA2 was excluded from further consideration based on wetland impacts; potential DOD/USCG use conflicts; major delays in Project implementation based on the need to obtain real estate easements from state, local, and possibly private entities; and higher construction costs and a much longer construction timeframe than the proponent's selected alternative.

Summary

Of the potential export cable routes evaluated, the Brayton Point routes, the Kent County routes, the Riverside Avenue route, Davisville Route 1, and the two Davisville Over Land Alternate routes were ultimately excluded from further consideration by the Project applicant. Subsequently, as part of its

implementation of the NEPA regulations governing the development of a "reasonable range of alternatives" and its alternatives screening criteria, BOEM also excluded these routes from further consideration based on a variety of factors, including wetland impacts, fill impacts, USCG and/or DOD use conflicts, construction costs, and Project implementation and completion delays. Consequently, Revolution Wind identified Davisville Route 2 as their selected route for the export cable. This alternative accommodates the full generation capacity of the Project while avoiding wetland impacts, DoD/USCG use conflicts, and the major Project delays and higher construction costs associated with the two over land alternatives. This route also involves the least fill in tidal waters of the primarily in-water routes and is used in all action alternatives analyzed in this EIS.

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APPENDIX L

Comments Received on Draft Environmental Impact Statement and BOEM's Responses to Public Comments on the Draft Environmental Impact Statement

Contents

Tables

Introduction

On September 2, 2022, the Bureau of Ocean Energy Management (BOEM) published a notice of availability for the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) Project draft environmental impact statement (EIS), consistent with the regulations implementing the National Environmental Policy Act (NEPA) (42 United States Code 4321 et seq.) to assess the potential impacts of the Proposed Action and alternatives. The Draft EIS was made available in electronic form for public viewing at https://www.boem.gov/renewable-energy/state-activities/revolution-wind, and hard copies or electronic copies were delivered to other entities as specified in EIS Appendix H. The NEPA review process requires agencies to allow the public the opportunity to comment on a draft EIS. The notice of availability initiated a 45-day public comment period for the Draft EIS. The comment period closed on October 17, 2022. This appendix presents the public comment processing methodology and definitions, includes responses to comments received on the Draft EIS, and describes whether updates to the Final EIS have been made in response to a comment.

Objective

BOEM reviewed and considered all written and oral public submissions received during the 45-day public comment period. BOEM's goal was to identify comments to be addressed in the Final EIS and to categorize those comments based on the applicable resource areas or NEPA topics. This categorization scheme allowed subject matter experts to review comments directly related to their areas of expertise and allowed BOEM to generate statistics based on the resource areas or NEPA topics addressed in each of the comments. All public comment submissions received can be viewed online at http://www.regulations.gov by typing "BOEM-2022-0045" in the search field.

Methodology

Terminology

The following terminology is used throughout this appendix:

- *Submission*: The entire content submitted by a single person or group at a single time. For example, a 10-page letter from a citizen, an email with a portable document format (PDF) attachment, and a transcript of an oral comment given at a public hearing meeting were each considered to be a submission.
- *Comment*: A specific statement within a submission that expresses a sender's specific point of view, concern, question, or suggestion. A comment can consist of more than one sentence, as long as those grouped sentences express a single idea. One submission may contain many comments.
- *Substantive comment*: To be substantive, a comment must relate to the reasonably foreseeable impacts of the Proposed Action, alternatives, or cumulative actions and do one or more of the following:
    - Question (with supporting rationale) the accuracy of information in the Draft EIS
    - Question (with supporting rationale) the adequacy of, methodology for, or assumptions used for the environmental analysis

  - Present new information relevant to the analysis
  - Present reasonable alternatives or mitigation measures other than those analyzed in the Draft EIS
  - Present or cause modifications to alternatives or mitigation measures analyzed in the Draft EIS
  - Correct factual errors in the content of the Draft EIS
- *General comment*: General comments are comments other than substantive comments. General comments may 1) express interest or concern regarding an impact topic without providing specific comments on the information, methods, or findings presented in the Draft EIS; 2) express general support for or opposition to the Project; or 3) comment on a topic unrelated to the Project.

Comment Submittals

Federal agencies; state, local, and tribal governments; and the general public had the opportunity to provide comments on the Draft EIS via the following mechanisms:

- Electronic submissions via www.regulations.gov under docket number BOEM-2022-0045
- Hard copy comment letters submitted to BOEM via traditional mail
- Comments submitted verbally at each of the public hearings.

BOEM held two online public hearings via Zoom Webinar platform and three in-person public hearings to solicit verbal and written comments to inform preparation of the Final EIS. The hearings were free and open to the public with no reservations required. Locations and dates of these hearings are outlined in Table L-1, and transcripts are available here: https://www.boem.gov/renewable-energy/state-activities/revolution-wind.

Table L-1. Public Hearings

Date	Time	Location
September 29, 2022	1:00 p.m. eastern time	Zoom Webinar
October 4, 2022	5:00 p.m. eastern time	In person (Martha's Vineyard) Aquinnah Old Town Hall 955 State Road Aquinnah, Massachusetts 02535
October 5, 2022	5:00 p.m. eastern time	In person (East Greenwich)Swift Community Center 121 Peirce Street East Greenwich, Rhode Island 02818
October 6, 2022	5:00 p.m. eastern time	In person (New Bedford)Keith Middle School 225 Hathaway Boulevard New Bedford, Massachusetts 02740
October 11, 2022	5:00 p.m. eastern time	Zoom Webinar

All submissions initially provided by methods other than submitting them to www.regulations.gov, including the transcripts of testimony by individual speakers at the public hearings listed in Table L-2,

were uploaded to the docket at www.regulations.gov and assigned a unique submission identification number. That unique submission identification number was retained throughout the comment management process for both submissions and for the individual comments within those submissions.

Comment Processing

BOEM downloaded and reviewed all submissions from www.regulations.gov. These submissions were provided in Hypertext Markup Language (html) format, whereas attachments provided by stakeholders as part of their www.regulations.gov submission were typically provided in PDF or Microsoft Word format. Text from all formats was parsed, coded, and exported into a single Microsoft Excel file that served as the primary submission database. The submission database also included information about each submission, including the submitter's contact information, submission date, and whether the submitter was a government entity or agency or citizen. All coded comments are presented herein verbatim as received. No edits or grammatical corrections were made. All submissions are available for review at www.regulations.gov under docket number BOEM-2022-0045.

BOEM received a total of 123 individual comment submissions as shown in Table L-2. As noted in the notice of availability, BOEM did not include anonymous comments.

Table L-2. Regulations.gov Submission Identification Number and Submitter

Federal Document Management System (FDMS) Submission Number	Submitter
BOEM-2022-0045-0001	This submission number was not assigned
BOEM-2022-0045-0002	Benjamin Riggs
BOEM-2022-0045-0003	Associated Industries of Massachusetts (AIM)
BOEM-2022-0045-0004	City of New London
BOEM-2022-0045-0005	johnprue62@gmail.com*
BOEM-2022-0045-0006	Edward R. Johnson
BOEM-2022-0045-0007	Chamber Of Commerce Of Eastern Connecticut
BOEM-2022-0045-0008	Iron Workers Local 37
BOEM-2022-0045-0009	Katherine Kohrman
BOEM-2022-0045-0010	Jennifer Valentine
BOEM-2022-0045-0011	Nancy Cadet
BOEM-2022-0045-0012	Eastern Connecticut Workforce Investment Board, Inc.
BOEM-2022-0045-0013	Greater New Bedford Workforce
BOEM-2022-0045-0014	Rhode Island Building and Construction Trades Council
BOEM-2022-0045-0015	BuildRI
BOEM-2022-0045-0016	Blount Boats
BOEM-2022-0045-0017	One SouthCoast Chamber

Federal Document Management System (FDMS) Submission Number	**Submitter**
BOEM-2022-0045-0018	The Connecticut Business & Industry Association (CBIA)
BOEM-2022-0045-0019	Building Futures
BOEM-2022-0045-0020	Massachusetts Business Roundtable
BOEM-2022-0045-0021	Greater Mystic Chamber of Commerce
BOEM-2022-0045-0022	Chamber of Commerce Eastern Connecticut
BOEM-2022-0045-0023	North Kingstown Chamber of Commerce
BOEM-2022-0045-0024	ECOncrete
BOEM-2022-0045-0025	Harriet Bernstein
BOEM-2022-0045-0026	MetroHartford Alliance
BOEM-2022-0045-0027	Waterson Terminal Services, LLC
BOEM-2022-0045-0028	AdvanceCT
BOEM-2022-0045-0029	TY Howe
BOEM-2022-0045-0030	Southeastern Wind Coalition
BOEM-2022-0045-0031	Maritime Association of the Port of NY & NJ
BOEM-2022-0045-0032	North Kingstown Chamber of Commerce
BOEM-2022-0045-0033	Northeast Clean Energy Council
BOEM-2022-0045-0034	Miles Grant
BOEM-2022-0045-0035	The Greater Boston Chamber of Commerce
BOEM-2022-0045-0036	BlastOne International
BOEM-2022-0045-0037	John Haran
BOEM-2022-0045-0038	Edison Chouest Offshore
BOEM-2022-0045-0039	Climate Jobs Rhode Island
BOEM-2022-0045-0040	Benjamin Candea
BOEM-2022-0045-0041	Menunkatuck Audubon Society
BOEM-2022-0045-0042	Connecticut Port Authority
BOEM-2022-0045-0043	Construction Industries of Rhode Island
BOEM-2022-0045-0044	Paige Therien
BOEM-2022-0045-0045	IUPAT DC 11
BOEM-2022-0045-0046	Meghan Gombos
BOEM-2022-0045-0047	Riggs Distler and Company, Inc.
BOEM-2022-0045-0048	Albert Wynn

Federal Document Management System (FDMS) Submission Number	**Submitter**
BOEM-2022-0045-0049	James A. "Spider" Marks
BOEM-2022-0045-0050	Guy Caruso
BOEM-2022-0045-0051	Christopher Thawley
BOEM-2022-0045-0052	University of Connecticut
BOEM-2022-0045-0053	Constance Gee
BOEM-2022-0045-0054	Alpine Ocean Seismic Survey, Inc.
BOEM-2022-0045-0055	ECOncrete
BOEM-2022-0045-0056	TY Howe
BOEM-2022-0045-0057	Nouveau Consulting
BOEM-2022-0045-0058	U.S. Coast Guard
BOEM-2022-0045-0059	Seafreeze Shoreside, Seafreeze Ltd.
BOEM-2022-0045-0060	Connecticut Roundtable on Climate and Jobs
BOEM-2022-0045-0061	Stephen Kent
BOEM-2022-0045-0062	Save The Bay
BOEM-2022-0045-0063	Martha Small
BOEM-2022-0045-0064	Norman Bird Sanctuary
BOEM-2022-0045-0065	RODA
BOEM-2022-0045-0066	Patrice Douglas
BOEM-2022-0045-0067	Thomas Magness
BOEM-2022-0045-0068	Craig Stevens
BOEM-2022-0045-0069	Rhode Island Department of Environmental Management
BOEM-2022-0045-0070	New Bedford Port Authority
BOEM-2022-0045-0071	New England Fishery Management Council and Mid-Atlantic Fishery Management Council
BOEM-2022-0045-0072	The Massachusetts Office of Coastal Zone Management
BOEM-2022-0045-0073	Emily Pfeifer
BOEM-2022-0045-0074	Anne Simon
BOEM-2022-0045-0075	New England for Offshore Wind
BOEM-2022-0045-0076	The Nature Conservancy
BOEM-2022-0045-0077	New England for Offshore Wind & Green Energy Consumers Alliance
BOEM-2022-0045-0078	The Nature Conservancy
BOEM-2022-0045-0079	U.S. Environmental Protection Agency (EPA)

Federal Document Management System (FDMS) Submission Number	**Submitter**
BOEM-2022-0045-0080	Town of New Shoreham, City of Newport et al.
BOEM-2022-0045-0081	Town of New Shoreham, City of Newport et al.
BOEM-2022-0045-0082	Town of New Shoreham, City of Newport et al.
BOEM-2022-0045-0083	New York State Department of State
BOEM-2022-0045-0084	Jane Philppi
BOEM-2022-0045-0085	Matthew Dawson
BOEM-2022-0045-0086	Orsted
BOEM-2022-0045-0087	Vaisala
BOEM-2022-0045-0088	Robert Dalglish
BOEM-2022-0045-0089	Rhode Island Saltwater Anglers Association
BOEM-2022-0045-0090	RI Associated General Contractors
BOEM-2022-0045-0091	Save The Sound
BOEM-2022-0045-0092	Business Network for Offshore Wind
BOEM-2022-0045-0093	Elizabeth Knight
BOEM-2022-0045-0094	RENEW Northeast
BOEM-2022-0045-0095	ConservAmerica
BOEM-2022-0045-0096	Rhode Island Coastal Resources Management Council
BOEM-2022-0045-0097	Carl van Warmerdam
BOEM-2022-0045-0098	Long Island Commercial Fishing Association
BOEM-2022-0045-0099	Gay Head Lighthouse Advisory Board and Town of Aquinnah
BOEM-2022-0045-0100	National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office
BOEM-2022-0045-0101	Mashantucket (Western) Pequot Tribal Nation
BOEM-2022-0045-0102	Mashpee Wampanoag Tribe
BOEM-2022-0045-0103	EPA
BOEM-2022-0045-0104	Cultural Heritage Partners
BOEM-2022-0045-0105	U.S. Army Corps of Engineers
BOEM-2022-0045-0106	maggielsmith@gmail.com*
BOEM-2022-0045-0107	maggielsmith@gmail.com*
BOEM-2022-0045-0108	flycasting@comcast.net*
BOEM-2022-0045-0109	eqknight@verizon.net*
BOEM-2022-0045-0110	National Wildlife Federation, Natural Resources Defense Council, Conservation Law Foundation, National Audubon Society,

Federal Document Management System (FDMS) Submission Number	**Submitter**
BOEM-2022-0045-0111	State of New York Department of State
BOEM-2022-0045-0112	Mystic Aquarium
BOEM-2022-0045-0113	BlueGreen Alliance
BOEM-2022-0045-0114	Theodore Barten
BOEM-2022-0045-0115	Public Hearing #1 9/29/2022 transcript
BOEM-2022-0045-0116	Public Hearing #2 10/4/2022 transcript
BOEM-2022-0045-0117	Public Hearing #3 10/5/2022 transcript
BOEM-2022-0045-0118	Public Hearing #4 10/6/2022 transcript
BOEM-2022-0045-0119	Public Hearing #5 10/11/2022 transcript
BOEM-2022-0045-0120	BlueGreen Alliance
BOEM-2022-0045-0121	William Barry
BOEM-2022-0045-0122	William Barry
BOEM-2022-0045-0123	National Park Service
BOEM-2022-0045-0124	Rhode Island Historic Preservation and Heritage Commission

* First and last name not provided in the www.regulations.gov online form for comment submission.

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NEPA Process and EIS Components

Alternatives

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0096	1	Reduce the number of WTG positions to the amount necessary to meet existing Purchase Power Agreements (PPAs) The final approval of the Project should limit the number of WTG positions to the number needed to meet current PPA obligations so to reduce the overall footprint and impacts from the construction, operation and maintenance, and decommissioning of the Project. The Proposed Action would include 100 WTG positions with the capacity to deliver 880MW of offshore wind renewable energy. However, the Project currently has three PPAs totaling 704MWs: 200MW with the State of Connecticut, 400MW with the State of Rhode Island, and an additional 104MW with the State of Connecticut. See DEIS at ES-2. Thus, if the project were to utilize 11MW WTGs, only 64 WTG positions would be necessary to fulfill the 704MW PPA and 36 WTG positions could be eliminated. Eliminating 36 positions would allow for greater flexibility in siting WTGs to avoid fragile habitat and resources and reduce user conflicts that would result from the Proposed Action.	Thank you for the comment. After carefully considering the EIS alternatives, including comments from the public on the Draft EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0092	1	While the Network begins by commending BOEM for recognizing the importance of public policy by maintaining a commitment to achieving at least 704-MW nameplate capacity for the Proposed Action and each of the Action Alternatives, we encourage BOEM closely examine whether the environmental, safety, and/or societal benefits of each alternative outweighs the loss of clean energy output. Offshore wind project developers are currently dependent on state procurement processes to receive an offtake agreement and due to state timelines or market competition, may not have secured an offtake agreement that is reflective of their entire project portfolio or that maximizes the public good. We commend BOEM for weighing state policy choices in the EIS process, but encourage BOEM to recognize that future state energy needs may not have been defined yet, and alternative offtake pathways including corporate or governmental procurement agreements may be utilized in the future. Every reduction in a turbine is a reduction in clean, renewable energy production that can be used in the future. As noted above, the cumulative environmental impact of the Revolution Wind project is substantial, especially in comparison to the absence of any action and the continued reliance on current energy generation. Additionally, while BOEM considers the minimum turbines needed to achieve public policy objections, the Network encourages analysis to factor in unexpected disruptions to service. Routine maintenance may require turbines to be shutdown occasionally, and developers may have factored in extra turbine placements to mitigate time lost to service.	BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486. The purpose and need in the EIS reflect the requirement per those regulations, whereas BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations.
BOEM-2022-0045-0058	1	Overall, the DEIS sufficiently evaluates the impacts to navigation safety of waterway users and our missions, resulting in minor to moderate adverse impacts. The Coast Guard supports the Proposed Action Alternative, which maintains an east-west and north-south 1NM by 1NM spacing and layout, in alignment with other proposed adjacent wind farms. As we concluded in the Massachusetts/Rhode Island (MA/RI) Port Access Route Study (MARIPARS) report (referenced in the DEIS as USCG 2020), a key means to mitigate effects on safe navigation and Coast Guard missions is the adoption of a uniform grid pattern across the entire MA/RI wind energy area. The standard and uniform grid pattern may also mitigate cumulative impacts to commercial and recreational fishing.	Thank you for your comment.
BOEM-2022-0045-0103	2	We support the inclusion of Alterative F in the mix of DEIS alternatives under consideration by BOEM and see it as an effective tool in combination with other build alternatives to reduce project impacts while still meeting energy generation objectives. BOEM's consideration of 14 MW WTGs in Alternative F is consistent with other projects proceeding through the BOEM environmental review process that contemplate similar or greater minimum nameplate capacities. The DEIS generally describes impact reductions provided by Alternative F through reductions in the number of WTGs and inter-array cables needed for the project. Recommendations: Our recommendations below are intended to help BOEM improve the analysis of Alternative F to support BOEM decision-making regarding alternatives. Based on our review we encourage BOEM to present a more refined analysis of the amount of impact reduction that could be associated with Alternative F through the reduction in the number of WTGs and inter-array cables. One area where the analysis could be improved is in the presentation of the alternative. Whereas the DEIS provides both narrative and visual representations of the Alternatives B/C-E as part of the effort to describe impacts, the presentation of Alternative F is less specific due it appears to the noted uncertainty about which WTG locations would be eliminated under the alternative. For example, the DEIS notes that "…using a higher capacity WTG would potentially reduce the number of foundations constructed	Thank you for your comment. Appendix E-4 of the EIS provides calculations of WTG numbers, footprint, and scour protection associated with Alternative F. The EIS was updated to provide this quantification, as feasible by resource. Project design has not occurred for Alternative F; therefore, GIS calculations for the IAC, OSS-link cable, and RWEC are not available. In these cases, the EIS uses the Proposed Action as the most conservative proxy estimate and indicates that best professional judgment suggests that the footprint of the IAC, OSS-link cable, and RWEC would change and be slightly reduced to match the reduced number of WTGs under Alternative F.

FDMS Submission #	Comment #	Comment	Response
		to meet the purpose and need and thereby potentially reduce impacts to marine habitats and culturally significant resources and potentially reduce navigation risks." We agree with this generalized statement and encourage BOEM to take steps to provide more quantitative information to describe the likely reduction in impacts both in the description of the alternative and in the impact assessments that follow in the body of the EIS.	
BOEM-2022-0045-0092	2	III. Comments on the Proposed Alternatives The Network acknowledges BOEM's thorough Scoping and Alternatives analysis process and is pleased to note that the proposed Action Alternatives have no significantly different resource impact ratings than the Proposed Action. We emphasize the importance of maximizing the capacity to deliver energy from the project in order to achieve commitments while reducing costs, amplifying community benefits and safeguarding the environment. In that, we believe that Alternatives C-E address particular concerns, however, each of these alternatives are presented without consideration of the other alternatives. The Network believes the most successful alternative may be an amalgamation of parts of each. In order to recognize and support the required clean energy transition, these alternatives must be looked at in conjunction with each other. One solution may negate and/or exacerbate the impacts of another when the examination is not wholistic. Furthermore, the Network encourages BOEM to think about holistic economic and environmental impacts when considering alternatives. BOEM estimates that construction will would generate up to an average 4,976 full time jobs and up to $535.91 million in value-added production to the combined GDP of Rhode Island and Connecticut (DEIS Table 3.11-9), and operations and maintenance phase is estimated to generate up to $86.52 million in total value added per year over the 35-year life span of the Project (DEIS Table 3.11-10). In comparison, commercial fishing revenue is estimated at $1.42 million annually – multiple mitigation measures are proposed to offset these impacts from commercial fisheries such as compensation for loss of fishing gear and lost fishing income.	BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. After carefully considering the EIS alternatives, including comments from the public on the DEIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0078	2	Typically, a draft Environmental Impact Statement is an analysis of the particular environmental concerns identified during the earlier phases of project development or a scoping process. The objective of the analysis is to estimate the nature, severity, and duration of impacts that might occur and to compare the impacts of the proposed project to the identified relative alternatives. The challenges for stakeholders and the developer in the offshore wind context of this process are that 1) the proposed action listed in the DEIS is the Construction and Operation Plan envelope (i.e., the full breadth of all 100-wind turbine generator and substation positions), and 2) it is unclear whether the alternatives identified and analyzed by BOEM are electrically, technically, and economically feasible or even available to the project developer. It is also not easy to understand how a preference for one alternative may hinder or undermine the goals of the other alternatives identified. Because the primary concern in developing a final EIS is to address public comments on the draft EIS, the constraints on the public's ability to see and comment on habitat or viewshed mitigation alternatives that are actually available to the developer, reduces the effectiveness of stakeholder engagement and the ability of BOEM to identify, receive comments on, and analyze alternatives that would reduce impacts to habitat, users, transit and viewshed. BOEM should make it clear to the public that the ultimate project likely will need to be a combination of these alternatives. It may also be helpful for BOEM to be clear that the alternatives identified in the DEIS have not been proposed by or reviewed with the project developer but are instead proposed by BOEM before feasibility has been assessed. Each of the alternatives listed in the DEIS addresses only one category of the project's potential impacts in isolation to other impacts. For example, the Habitat Alternatives C1 and C2 contemplate changes to the overall project that would result in fewer impacts to complex habitat. And TNC might prefer Habitat Alternative C1 because, as the DEIS states, this alternative would allow for the fulfillment of the existing three PPAs, while maintaining a uniform east–west/north–south grid of 1nm x 1nm spacing between wind turbine generators, and "noticeably" reducing impacts to complex fisheries habitats most vulnerable to permanent and long-term impacts. See DEIS p. 3.6-61. But the DEIS does not help us to understand whether 1) this alternative would create an electrical imbalance between substations that would significantly delay the project or, 2) how removal of wind turbines from the complex and sensitive habitat areas might affect the Visual Impact Alternative or the benefits to be gained from other presented alternatives, or 3) whether fewer turbines in a specific area is the only path to avoiding and minimizing impacts. For example, prior to disqualifying an area for foundation installation based on the pre-construction presence of complex fish habitat, it may be possible to mitigate the potential impacts by recreating habitat of equal, or perhaps even greater value to the species/communities of concern in terms of size, configuration, and complexity of habitat structures within and adjacent to the specific foundation(s) through the use of Nature-Inclusive Designs of scour protection and/or other structures	Thank you for the comment. These concerns were considered during BOEM's development of the preferred alternative in Section 2.1.7 and will be considered in BOEM's Record of Decision.

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		established around the specific foundation location(s) of concern. Mitigation of potential impacts to complex fish habitat through Nature-Inclusive Design provides an opportunity to deploy mitigation at the exact site of impact, with the potential to not only restore, but even enhance the habitat value of the area impacted. In the ocean environment there are few examples of this, but there is new research looking at how to maximize ecological value of offshore wind scour protection in the North Sea. The focus is on species "that need hiding places, shelter, feeding area or use the area as a nursery area and species that will profit from creating additional smaller and larger crevices," such as Atlantic cod, loligo squid, crab, lobster, and tautog, scup, seabass, and summer flounder, all of which are of interest here in the Northeastern United States. The general approach is to integrate objects like pipes, reef balls, cages and other space producing items into the standard scour protection to improve fish and other marine life habitat. If TNC encourages an alternative that would remove turbines from one area within the lease area those turbines likely will have to go somewhere else in the lease area, but the DEIS does not equip the reader to understand the implications associated with project tweaking. For this reason, it is challenging to provide comments on the suggested alternatives. Importantly, the outcome of the DEIS should not be a scorecard that tracks votes for addressing habitat impacts against votes for addressing visual impacts, rather it should be a process that results in the identification of available alternatives each that maximize the project benefits while reducing impacts. The best outcome in a final EIS is a project design that is electrically and economically available and that maximizes the avoidance, minimization and mitigation principles for habitat and species protection while also addressing the visual and cultural impacts and ocean user challenges. It is impossible to know whether such an alternative exists from reviewing the DEIS or what the next steps are with respect to integrating all or parts of the presented alternatives into a final project design. For these reasons, TNC strongly encourages the continued evolution of the environmental review and permitting process, in general, for future offshore wind projects, and for Revolution Wind, to the extent possible. Specifically, for future projects, the DEIS should identify alternatives that have been developed in consultation with the developer (or at least vetted with them) to assure that each of the considered alternatives are feasible in whole or in part. Pre-vetting is particularly important to the goal of streamlining the permitting process without sacrificing the concerns of stakeholders. Pre-vetting alternatives would also allow for greater transparency and inclusion of stakeholder and developer concerns in a more meaningful way.	
BOEM-2022-0045-0075	2	Environmental Protection The DEIS evaluates several alternatives to the Proposed Action that result in lesser or greater environmental impacts. BOEM has recognized that discrete aspects of the various identifed alternatives could be combined in order to enhance the beneficial impacts of the project. The Preferred Alternative identifed in the FEIS should identify and evaluate those opportunities in order to achieve the project objectives while minimizing adverse impacts to wildlife and environmental and cultural resources. For example, taking advantage of ongoing technological improvements, the FEIS should evalute the opportunity created by the deployment of larger turbine blades ("Alternative F") to reduce the number of required turbine foundation sites and identify whether this reduction in the project footprint could accommodate turbine siting supportive of Habitat Impact Minimization ("Alternative C") and address the tribal concerns considered in Reduction of Surface Occupancy to Reduce Impact to Culturally-Significant Resources ("Alternative E") while maintaining the Proposed Action's energy output to meet states' climate goals.	Thank you for the comment. After carefully considering the EIS alternatives, including comments from the public on the Draft EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0058	2	The Coast Guard also supports Alternative D3: Removal of the northwest row of WTGs adjacent to the inbound Buzzards Bay traffic lane. The Buzzards Bay approach is part of an International Maritime Organization adopted routing measure, and the northwest row of WTGs in the RWF is less than 2 NM to its parallel boundary. Consistent with the Coast Guard Marine Planning Guidelines, enclosure (3) to Navigation and Vessel Inspection Circular 01-19, the Coast Guard recommends a minimum spacing of 2 NM from the parallel out boundary of a Traffic Separation Scheme traffic lane to minimize the navigational risk and ensure vessels have sufficient room to adhere to the International Regulations for Preventing Collisions at Sea (COLREGS). Additionally, the RWF is the closest MA/RI project located to the ports projected to be used for both construction and operations of all the wind farms in the MA/RI area.	Thank you for the comment. After carefully considering the EIS alternatives, including comments from the public on the Draft EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0071	2	It is noteworthy that the DEIS includes Alternative F which requires use of 14 MW turbines. This is outside the project design envelope (PDE) proposed in Ørsted's COP. As described below, we support consideration of higher MW turbines as this can reduce the footprint of the project while still generating the same amount of power as a project with lower MW turbines and a larger footprint. However, this alternative creates a disconnect between the DEIS and the COP and could lead to confusion. The COP should be updated to include this turbine size.	This alternative was carried forward in response to cooperating agency and stakeholder requests for evaluation of WTGs capable of greater than 12 MW capacity. This alternative, however, has been bounded as not to exceed the physical parameters or footprint of the structures as described in the PDE and thus, does not propose larger structures. Therefore, in terms of assessing impacts, this alternative does not consider WTGs that fall outside the

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			bounds of the maximum impacts that could occur from the range of parameters in the COP.
BOEM-2022-0045-0110	3	BOEM must make every attempt to obtain and disclose data necessary to its analysis in order to provide a "full and fair discussion of significant environmental impacts."16 The simple assertion that no information or inadequate information exists will not suffice. Unless the costs of obtaining the information are exorbitant, NEPA requires that it be obtained.17 Agencies are further required to identify their methodologies, indicate when necessary information is incomplete or unavailable, acknowledge scientific disagreement and data gaps, and evaluate indeterminate adverse impacts based upon approaches or methods "generally accepted in the scientific community."18 Such requirements become acutely important in cases where, as here, so much about an activity's impacts depend on newly emerging science. As we expand upon later in this section, this duty also applies to the evaluation of reasonable alternatives. In particular, BOEM should provide an evaluation of the feasibility of various turbine technologies and foundations in the Final EIS. Finally, NEPA does not permit agencies to "ignore available information that undermines their environmental impact conclusions."	Appendix C of the EIS analyzed and disclosed where there is incomplete and unavailable information, whether that information is essential to a reasoned choice among the alternatives, and what acceptable scientific methodologies were applied to inform the analysis in light of this incomplete or unavailable information. Based on the purpose and need, BOEM considered a range of design elements that fell within the project design envelope of the COP. As described more fully in Section 2.1.8 Alternatives Considered but Dismissed from Detailed Analysis, consistent with BOEM's screening criteria and the underlying purpose and need, BOEM determined an analysis of turbine and foundation technologies beyond those included in the COP was not necessary, as an analysis of such parameters would require submission of an updated COP and would be functionally equivalent to selection of the no action alternative.
BOEM-2022-0045-0103	3	The DEIS at page 2-54 notes, "Under this alternative, BOEM could select the implementation of a higher capacity turbine in combination with any one alternative or a combination of the alternatives retained for detailed analysis in this EIS. Refer to Section 2.1.2, Section 2.1.3, Section 2.1.4, and Section 2.1.5 for figures." The references provided here and throughout the DEIS are to figures that do not include the additional reductions in WTGs that alternative F would provide. We recommend that additional graphics be provided to represent results of the hybridization of any of the other build alternatives with Alternative F. The figures could contain a general note indicating that the eliminated WTGs shown are representative but the characterization of the impact reduction from infrastructure would be representative of the hybridized (mix and match) approach. We encourage BOEM to present Alternative F with the same level of supporting figures/tables and analysis that accompanies the other build alternatives in the analysis.	Thank you for your recommendation. No decision regarding the placement of WTG locations has been made. Providing additional representative graphics would provide false precision that could lead to erroneous findings related to benthic or other resource impacts. Appendix E-4 of the EIS does provide calculations of WTG numbers, footprint, and scour protection associated with Alternatives C and F. The EIS was updated to disclose the additional reduction of acreage through application of Alternative F, as feasible by resource. Project design has not occurred for Alternative C or F; therefore, GIS calculations for the IAC, OSS-link cable, and RWEC are not available. In these cases, the EIS uses the Proposed Action as the most conservative proxy estimate and indicates that best professional judgment suggests that the footprint of the IAC, OSS-link cable, and RWEC would change and be slightly reduced to match the reduced number of WTGs under these two alternatives.
BOEM-2022-0045-0092	3	Alternative B The Network recommends that BOEM implement the goals of Alternative B, while recognizing, based on the valuable input that BOEM has received during the process, there are ways to improve upon the project while ensuring the timeline move forward without delay.	Thank you for your comment. After consideration of the public comments on the DEIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified a preferred alternative in the Final EIS. BOEM's selected alternative, along with any additional mitigation measures required by BOEM, will be disclosed in the Record of Decision.
BOEM-2022-0045-0099	3	It was mentioned in the recent presentation that not all 100 of the wind generators would be built at this time. We ask that Revolution Wind consider removing or relocating the northern and eastern most WTGs from the proposed grid within the leased area.	Thank you for the comment. As shown in Figures 2.1-11, 2.1-13, and 2.1-15 to 2.1-18 in the Draft EIS, BOEM is evaluating Alternative E to reduce the visual impacts on culturally important resources as well as Alternative D to reduce navigation risks and conflicts with other competing space uses. Various permutations of these two alternatives would remove the northern and/or eastern most WTGs in the Lease Area.
BOEM-2022-0045-0071	3	Also, we are assuming that the Alternative F concept of using larger turbines sufficient to meet existing power purchase agreements can be combined with Alternatives C, D, or E that are focused on which locations to remove to reduce conflicts. If this is not the current intent, we recommend that BOEM consider allowing Alternative F to be combined with other alternatives.	Thank you for the comment. This is correct; Alternative F can be combined with other alternatives.
BOEM-2022-0045-0103	4	In general, we note that the quantification of the additional reductions afforded through the adoption of Alternative F in combination with C1 and C2 could be shown more clearly in the revised analysis presented in the FEIS.	Thank you for your comment. Appendix E-4 of the EIS provides calculations of WTG numbers, footprint, and scour protection associated with Alternatives C and F. The EIS was updated to disclose the additional reduction of acreage through application of Alternative F, as feasible by resource. Project design has not occurred for Alternative C or F; therefore, GIS calculations for the IAC, OSS-link cable, and RWEC are not available. In these cases, the EIS uses the Proposed Action as the most conservative proxy estimate and indicates that best professional judgment suggests that the footprint of the IAC, OSS-link cable, and

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			RWEC would change and be slightly reduced to match the reduced number of WTGs under these two alternatives.
BOEM-2022-0045-0092	4	Alternative C The Network encourages BOEM to take a reasonable approach to the siting of the WTGs based on the Habitat Impact Minimization Alternative. Alternatives C1 and C2 leave a central gap in the wind energy facility, which will have a major impact on the electrical structure of the project. The alternative siting scheme increases the potential for major cost impacts and potential delay in the project. Although Alternative C potentially reduces the impacts to environmentally sensitive resources, the number of WTGs is reduced by 35, with no reduction in impacts significant enough to lower the impact rating of any resource analyzed within the EIS. For instance, the DEIS compares the annual commercial fishing revenue exposed in the lease area along the evolution Wind export cable by fishery management plan fishery under Alternatives B and C. The differences in average annual revenue at risk between Alternatives B and C are negligible. Alternative C would have a lower average annual revenue at risk by 0.02% to 0.23%, depending on FMP fishery, when compared to the Proposed Action (DEIS Tables 3.9-25 and G-3).	Thank you for the comment. Impacts to the project siting and constructability have been considered in the alternatives analysis, including development of the preferred alternative as described in Section 2.1.7.
BOEM-2022-0045-0114	5	The three primary Alternatives (habitat, transit, visual) involve the elimination of up to 36, 22 and 36 WTG positions, respectively. Elimination of more than 1/3 of the possible WTG positions means that 400 MW of potential wind generation is being taken off the table. Given the expected demand for OSW capaciy in New England, NY and NJ, and the limited size of fixed bottom lease areas, this a very significant change and one that deserves to be explicitly weighed and balanced against the typically minimal impact reductions. For example, the Project layout already reflects the RI/MA area wide use of uniform 1 nm by 1 nm NS-EW grid, thus negating the need for further transit lanes. Well screened, deconflicted lease areas are a very valuable regional resource and should, in my opinion, be treated accordingly.	BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486. The purpose and need in the EIS reflect the requirement per those regulations. BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. After carefully considering the EIS alternatives, including comments from the public on the DEIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0092	5	Alternative D The Network strongly recommends that BOEM not implement Alternatives D1, D2, and D3 fully to eliminate the Buzzard's Bay Traffic Separation Scheme Inbound Lane. In November 2019, BOEM achieved Northeast leaseholder agreement aligning project layouts and avoiding irregular transit corridors, in accordance with the Massachusetts and Rhode Island Port Access study, making further transit lanes unnecessary; additional transit requirements may decrease the likelihood of future similar agreements among leaseholders.	Thank you for the comment. These concerns were considered during BOEM's development of the preferred alternative in Section 2.1.7 and will be considered in BOEM's Record of Decision.
BOEM-2022-0045-0059	5	The Revolution Wind COP contends that it evaluated wind turbines from 8-12 MW in size,28 and the DEIS states that the Proposed Action is to include wind turbines ranging in size from 8-12 MW.29 The Project Design Envelope and Maximum Case Scenario found in Appendix D of the DEIS lists 12 MW as the maximum design size for both proposal and analysis.30 This is what has been analyzed. However, Alternative F of the DEIS envisions "Selection of a Higher Capacity Wind Turbine Generator", and specifies that such an alternative would implement "a higher nameplate capacity WTG (up to 14 MW) than what is proposed in the COP".30 We are unaware of any provisions that allow BOEM to propose alternatives that have not been analyzed and have not been proposed in the COP, particularly when the alternative introduces a larger structure. To introduce an alternative that is outside the scope of the application of a developer, outside the scope of analysis, and outside the scope of the maximum case scenario of the PDE contained in the DEIS is both arbitrary and capricious, and unreasonable, action by the agency. It appears to be a thinly veiled attempt to give the developer even more deference for profit than it has by only considering alternatives that fulfill the developer's PPAs or future development goals. We request that this alternative either be removed in its entirety, or that the developer amend their COP to include 14 MW turbines, with maximum design size and impacts analysis for a 14 MW turbine and resubmit the COP with this information contained. We request that BOEM then conduct additional NEPA analysis in a supplemental DEIS specific to a 14MW turbine.	This alternative was carried forward in response to cooperating agency and stakeholder requests for evaluation of WTGs capable of greater than 12 MW capacity. This alternative, however, has been bounded as not to exceed the physical parameters or footprint of the structures as described in the PDE and thus, does not propose larger structures. Therefore, in terms of assessing impacts, this alternative does not consider WTGs that fall outside the bounds of the maximum impacts that could occur from the range of parameters in the COP.
BOEM-2022-0045-0071	5	We appreciate that the DEIS indicates the minimum number of turbines which may be used and provides maps of turbine locations under each alternative. Assuming turbine capacities of 8-14 MW, this allows for calculations of how each alternative may compare to the existing power purchase agreements totaling 704 MW, which we assume is the baseline for evaluating against the purpose and need. It is worth noting that some alternatives can only meet the 704 MW target at larger turbine	Based on the information received during the scoping effort and other information, such as the location of sensitive natural resources, BOEM identified alternatives to the proposed action that might reduce possible impacts. The DEIS evaluated a reasonable number of alternatives covering the full spectrum of alternatives, each of which was rigorously

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		capacities (i.e., Alternatives C1, C2, and E1). We appreciate the level of detail provided in Alternative D where it is clearly stated that if all sub-options are selected, the purpose and need will still be met. It is unclear, however, what specific combination of Alternatives C-F can be selected to still generate a minimum of 704 MW. Combining location removals, potentially from more than one alternative, with the range of possible turbine sizes in the PDE quickly becomes confusing. Multiple alternatives include overlapping locations where turbines may be excluded, but the maps for each alternative are presented separately, posing challenges for determining how many wind turbine locations would remain under various combinations of some alternatives. The FEIS should specify the number of turbines and their locations for each alternative and turbine capacity combination. If smaller turbines (e.g., 8 MW) are not realistic for the project, these could be eliminated from the COP and FEIS to simplify the analysis. A map with numbered turbine or substation locations would be useful for considering combinations of multiple alternatives.	explored and objectively evaluated, as well as those other alternatives that were eliminated from detailed study with a brief discussion of the reasons for eliminating them (40 CFR 1502.14). The decision-maker may select elements from several alternatives discussed (40 CFR 1505.1 (e)). Various parts of separate alternatives that are analyzed in the DEIS can also be combined to develop a new, complete alternative in the FEIS as long as the reasons for doing so are explained and it is supported by the analysis. Ch 1 & 2 give a description and show a map layout for each alternative. After carefully considering the EIS alternatives, including comments from the public on the DEIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0070	5	Fishing operations in and around this area will be altered throughout the different phases of the project and likely throughout the entire life of the project. The Port of New Bedford generates $11.1 billion in economic activity and represents 2% of the entire Commonwealth of Massachusetts GDP (2019 Martin Assoc. Economic Impact Study of the New Bedford/Fairhaven Harbor). https://porto{11ewbedford.org!H·p-conte11t/1112.load.\/2019/04/Fi1/I 2019 Martin Report. pdf The major portion of this economic output is from the fishing industry, making the Port of New Bedford the nation's #1 fishing port in catch value. Mitigation, safety navigation, habitat impacts, cable burial depth, environmental monitoring and data collection, supply chain impacts and decommissioning are at the forefront of the fishing industry's concerns. Based on the multiple stated alternative analyses of this project, we recommend a combination of Alternatives C (Habitat Impact Minimization Alternative), & D (Transit Alternative) should be considered to minimize, to the greatest extent possible, any potential temporary or permanent negative effects to the fishing industry. Furthermore, in a general sense, we would be interested in promoting Alternative F (Selection of a Higher Capacity Wind Turbine Generator) to reduce the number of foundations constructed while still fulfilling the minimum amount of (MW) desired.	Thank you for the comment. After carefully considering the EIS alternatives, including comments from the public on the EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0092	6	Alternative E Ensuring that impacts to culturally-significant resources are limited is a critical part of the entire permitting process and the Network applauds BOEM's years-long stakeholder process, before and after wind energy area identification, to properly identify these situations. The Network encourages BOEM consider the economic and environmental impacts of any Reduction of Surface Occupancy options due to the decrease in potential energy generation. Removing or relocating turbines without sufficient justification would set a powerful precedent that will impact other projects in the future, limiting the overall capacity of the U.S. market in the near-term and economically weakening the supply chain.	Thank you for the comment. These concerns were considered during BOEM's development of the preferred alternative in Section 2.1.7 and will be considered in BOEM's Record of Decision.
BOEM-2022-0045-0071	6	We are confused about how the substation locations intersect with modifications that might be made if some combination of Alternatives C-F are selected. The DEIS notes that "Based on the COP and additional feedback from the applicant, BOEM continues to assume no change to the offshore substation locations due to feasibility constraints that would delay the Project to the extent that it would no longer meet the PPA obligations or BOEM's purpose and need as described in Chapter 1.2 of the EIS." It seems illogical to remove turbines from a portion of the lease area, for example to mitigate impacts to Atlantic cod, but then locate the substation in that vicinity regardless. In addition to any impacts of construction at the substation position on cod and structured habitats, additional miles of cabling will be required if the substation is separated from the turbines. The configuration of the interarray cables and substations is based on using all 100 locations, but other routing approaches might be possible (and more efficient, requiring less cabling) depending on which turbine positions are removed. However, in some cases adjacent turbines cannot be connected without going outside the maximum work area identified in the COP. Could BOEM require additional surveys and a modification of the work area footprint, if it would facilitate relocation of the substation outside the Alternative C1/C2 exclusion zone?	Based on independent review of design constraint information from the applicant, and meetings with ISO-New England, BOEM determined that certain reconfigurations like relocation of the OSSs to reduce inter-array cable lengths and associated system impedances, are not feasible within the time-frame for which the project is feasible. Relocation of the OSSs would also have knock-on effects requiring size increase of high voltage components on the OSS (e.g., shunt reactors) and the export cable. A larger export cable size would then also require a larger size of the HDD and components on the OnSS. These larger components, and associated footprints, would fall outside the PDE proposed in the COP. Because of these reasons, BOEM concluded that analysis of such an alternative would be functionally equivalent to selecting the No Action alternative.
BOEM-2022-0045-0092	7	Alternative F The Network does not support the mandate of higher nameplate capacity even if the WTGs are commercially available. The Network is supportive of the growth of the supply chain, and recognizes there are business cases for the selection of particular WTGs, and higher capacity is not the only consideration	Thank you for your comment. After consideration of the public comments on the DEIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified a preferred alternative in the Final EIS. BOEM's selected alternative, along with any additional mitigation measures required by BOEM, will be disclosed in the Record of Decision.
BOEM-2022-0045-0078	7	TNC's specific recommendations to improve the outcomes for the environmental review process include: BOEM should work with the developer, state resource managers and stakeholders to develop available alternatives that	As indicated in the comment, BOEM has an extensive and staged process for regulating offshore wind development, with numerous opportunities for developer and stakeholder

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		address the challenges in a specified lease area in a balanced way before the DEIS is published. To this end, BOEM should: • Articulate and adhere to a more iterative process that allows concerns regarding specific impacts to inform the project design and alternatives at the earliest possible point in the review timeline. Much like BOEM's process for winnowing down a Call Area to a lease area has been improved, so should the process for identifying the alternatives that can address impacts associated with various project layouts and material and technology selection. TNC encourages BOEM to establish a process that would allow BOEM to incentivize bidders at the leasing stage to design projects (including material and methods selections) that thoughtfully address visual impact concerns, decrease impacts to vulnerable habitats and species, incorporate plans for achieving net positive biodiversity impacts, and incorporate nature inclusive design elements, etc…. Project developers should have the chance to incorporate these solutions into their project designs at the earliest stage possible. There are several examples of more iterative processes that allow for earlier examination of feasibility and alternatives. For example, a number of states are incorporating non-price related scoring criteria into their respective procurement procedures for offshore wind. These non-price criteria are beginning to establish a set of minimum standards that must be addressed by a successful bid. BOEM should consider requiring companies that win leases to present project designs that address shared transmission, avoidance of complex and sensitive habitat, avoidance and minimization of impacts to cultural and commercial resources in the lease area after site assessment and before the Construction and Operation Plans are submitted for review. Another example comes from the fisheries management process where various technically evaluated management scenarios are co-developed and vetted among stakeholders, resource managers, and law enforcement prior to adoption. BOEM should invite key stakeholders, state resource managers, and developers to inform the identification of feasible alternatives in the DEIS well before they are presented for comment. • Produce a draft map (in consultation with the project developer) of the optimal project layout and present mapped versions of the alternatives to that optimal project layout at the DEIS stage. To the extent a project developer has flexibility to micro-site while also adhering to a 1nm x 1nm grid pattern, BOEM should show draft maps to stakeholders concerned with project layout these options in advance of the DEIS. • When identifying alternatives, consider that removing turbines is not the only way to avoid impacts. Micro-siting can be effective, especially when options identified by feasible alternatives are combined with a micro-siting approach. Also, BOEM should consider identifying alternatives that require nature inclusive designs to enhance scour protection in hard bottom habitat areas that are not able to be avoided. Developers' goals to achieve net positive impacts on key biodiversity factors should be reflected in the project envelope and be evident in the alternatives so that a cost versus benefits analysis is possible and may be commented on by BOEM and stakeholders at the DEIS stage. • Ensure that alternatives presented in the DEIS are feasible and that they address interconnection and integration with shared transmission. In this case, Revolution Wind is limited to delivering 704MW of energy because of on-shore interconnection constraints, but the lease area would have allowed for a project that could generate 880MW of offshore wind energy. Therefore, and as a result of transmission constraints, nearly 200MW of offshore wind is not being captured. For this reason, TNC recommends that where the existing on-shore interconnection points constrain the project's energy delivery potential, BOEM also should consider alternatives that would allow lease holders to capture the full potential of the lease area at a future date if and when integration with a shared grid becomes an option. See section below on Transmission re "shared grid" or "shared transmission." • Clearly identify the minimum mitigation requirements and monitoring measures that will become required permitting conditions that the developer must adhere to as part of the final permit or Record of Decision regardless of the ultimate alternative selected. • Include as much detail in the final EIS as possible about what measures will be used, the performance standards they must meet, and how the developer will be evaluated on meeting those standards. We also recommend incorporating replicated BAG (before-aftergradient) designs into ecological monitoring plans and protocols to facilitate converting observations from early projects into informed predictions for future projects. In finalizing the layout and design elements of the Revolution Wind project in particular and before issuing a final EIS, TNC urges BOEM to engage the developer and stakeholders in an iterative process to identify alternatives that seek to serve the various objectives (delivering offshore wind, meaningfully addressing environmental, commercial and cultural concerns, etc.) that are also infact feasible. It is only by identifying feasible alternatives that sufficiently address stakeholder concerns that the resulting alternatives can be used for the development of the final EIS without adding further delay to the permitting process.	engagement. BOEM's planning and leasing activities offshore Rhode Island leading up to submission of the Revolution Wind COP are outlined in Table 1.1-1 of the EIS. Also, as summarized in Section 2.1.2 of the COP, Revolution Wind conducted comprehensive desktop studies of oceanographic, geologic, shallow hazards, archaeological, and environmental resources in the Lease Area beginning in 2017 (vhb 2022) prior to submitting a COP to BOEM for consideration. These desktop studies informed the preliminary siting of the Project and supported the development of COP survey plans, which were conducted in 2017, 2018, and 2019. The purpose of the COP surveys was to conduct site characterization, marine archeological, and benthic studies necessary to further evaluate the seafloor in the Lease Area and along potential RWEC routes. The COP survey plans were submitted in accordance with the stipulations of the Lease as well as the following BOEM regulations and BOEM's guidelines: - Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR 585, dated May 27, 2020 (BOEM 2020a) - Guidelines for Submission of Spatial Data for Atlantic Offshore Renewable Energy Development Site Characterization Surveys, dated February 1, 2013 (BOEM 2013) - Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR 585, dated May 27, 2020 (BOEM 2020b) - Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585, dated June 2019 (BOEM 2019) - Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan (COP), dated May 27, 2020 (Version 4.0) (BOEM 2020c) After carefully considering the EIS alternatives, including comments from the public on the Draft EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS. Appendix F of the EIS has also been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. These measure are being considered across all action alternatives. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM fully supports regional monitoring and sharing data with the public as offshore wind development progresses and will incorporate results in future decisions BOEM is also continually exploring ways to improve NEPA analyses and stakeholder engagement. As one example of these efforts, BOEM recently announced its intent to prepare a Programmatic EIS to analyze the potential impacts of wind energy development activities in the New York (NY) Bight. The Programmatic EIS will help BOEM make timely decisions on COPs submitted for the NY Bight and provide earlier opportunities for engagement with potentially affected stakeholders to better inform project siting and COP development prior to submission to BOEM.

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BOEM-2022-0045-0071	7	We support the habitat impact minimization alternative (Alternative C) given the potential for micrositing or removal of turbine locations to meet the 704 MW power purchase agreements. This would mean only 64-65 turbines would be used, not the full 100 turbines proposed. It is unclear, however, which turbine size this alternative is based on. Alternatives C1 and C2 combined will meet the PPAs if a 14 MW turbine is used (Alternative F). The most robust evidence for cod spawning activity is within the westernmost portion of the C1 and C2 exclusion zones, west of one of the offshore substations. If either Alternative C1 or Alternative C2 cannot be adopted in full, we suggest prioritizing removal of these locations. Figure K-1 in Appendix K shows sub-areas considered during development of Alternative C, overlaid on substrate data; this is a useful figure that should be referred to throughout the FEIS and in future presentations. Area 1 is the region where cod spawning activity is well documented. Additional surveys throughout these four areas, especially in sub-areas 3a and 3b, would help elucidate presence and absence of contiguous complex habitat.	Thank you for the recommendation. A detailed description of the development of Alternative C is provided in Appendix K, which is available to the public with the FEIS. As noted in the appendix, the number of WTGs that could be removed in Alternative C is based on the minimum power output for Revolution Wind (704 megawatts [MW]) using the largest capacity WTG in the PDE (12 MW). After carefully considering the EIS alternatives, including comments from the public on the DEIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0065	7	A range of alternatives for the following topics should be included for analysis and full consideration in the EIS: a. Transit lanes for fishing vessels; b. Cable burial depths; and c. Compensatory mitigation and impact fees for fisheries loss and risk.7 7 Discussions regarding impact fees for this project are occurring in certain states in parallel to this NEPA review. For example, the State of Massachusetts' Fisheries Working Group for Offshore Wind viewed an economic analysis prepared by Ørsted for this project that is not readily discoverable in the DEIS or the docket. The DEIS thus is not based on all available information, and impact fees are not being based on a holistic environmental review. These processes must be improved and aligned.	Thank you for the comment. The EIS analysis was based on the latest publicly available information. After carefully considering the EIS alternatives, including comments from the public on the EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS. Updated mitigation and monitoring requirements, including compensatory mitigation, are outlined in Appendix F of the EIS.
BOEM-2022-0045-0110	8	For this Project, the purpose and need is defined as "to contribute to Connecticut's mandate of 2,000 megawatts (MW) of offshore wind energy by 2030, as outlined in Connecticut Public Act 19-71, and Rhode Island's 100% renewable energy goal by 2030, as outlined in Rhode Island Governor's EO 20-01 of January 2020."33 We are concerned that the DEIS did not consider alternate turbine foundation technologies, such as gravity based and suction bucket foundations which significantly reduce noise-related impacts to marine mammals and the broader marine ecosystem. Instead, the various alternatives evaluated in the DEIS mostly focus on layout changes as well as some variation in turbine capacity to accommodate those layout alterations. The COP eliminates these technologies from consideration based on a series of factors including logistics,34 but their analysis is not provided to the public for review, nor does it appear that BOEM has confirmed that the applicant's conclusion is correct. BOEM should evaluate and provide for public review a more robust array of foundations, like quiet foundations, which would significantly reduce impacts to the marine environment.	Thank you for your comment. As discussed in Section 2.1.8 Alternatives Considered but Dismissed from Detailed Analysis, BOEM considered a range of alternatives during the EIS development process that emerged from scoping, interagency coordination, government-to-government consultation, and internal BOEM deliberations. The use of alternative foundation types, including suction bucket foundations and floating wind turbine foundation types to reduce impacts on marine mammals, sea turtles, and fish from pile driving associated with monopile and jacket foundations, are not feasible within the Lease Area because of the following: 1. The dense soils beneath an upper loose surficial layer of sand may prevent the full penetration required for stability of suction bucket foundations. 2. The loose upper layer of sandy sediment also presents a settlement risk for gravity-based foundations. 3. The water depths are too shallow in portions of the Lease Area for floating foundations. Although these foundation types would not require pile driving, the larger footprint of suction bucket foundations would increase seabed disturbance; additionally, all alternate foundation types would create less room for fishing activities between turbines when compared to monopile foundations. The cables associated with floating wind turbines would also increase the risk of entanglement for marine mammals. Overall, these alternative foundation types are not feasible in the Lease Area and may increase long-term environmental impacts to some resources over those from monopile foundations within the Lease Area. This rationale was added to Table 2.1-19 of the Final EIS.
BOEM-2022-0045-0114	8	As noted above, I do not believe the Transit alternative (D) is necessary given Revolution Wind's use of the agreed upon 1 nm by 1 nm NS-EW grid across the 9 lease areas comprising the entirety of the RI/MA WEAs. That said, the graphics used to illustrate the transit variations (Figures 2.1-10 through 16) should include the immediately adjoining Southfork lease area for context.	Thank you for the comment. Figures 2.1-10 through 2.1-16 display differences in layout between possible combinations under Alternative D. Geographic analysis area maps provided in the resource areas of Chapter 3 of the EIS display surrounding lease areas for each resource.
BOEM-2022-0045-0086	8	Revolution Wind appreciates the NEPA alternative screening criteria that BOEM highlighted in the DEIS and that BOEM subsequently further elaborated upon in published guidance.8 In particular, the guidance emphasizes that in developing the Purpose and Need for the Environmental Impact Statement (EIS), the lead agency should consider "the goals of affected states, including state laws that establish renewable energy goals and mandates, where applicable."9 The guidance also highlighted the appropriateness of considering the project developer's goals, including "awarded contracts for offtake and/or the MW nameplate capacity for the proposed project; the proposed area within the lease."10 In addition, the screening criteria recognize that alternatives that "result in implementation delays that would invalidate the [offtake] agreement or	The proposed Project, as described in the COP, includes WTG dimensions that would allow for a 220-meter rotor diameter WTG. As such, BOEM analyzed larger turbines consistent with Revolution Wind's PDE parameters. BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications, or disapprove Revolution Wind's COP in fulfillment of BOEM's duties under the lease. In making this determination, the Secretary retains wide discretion to weigh those goals as an application of their technical expertise and policy judgment.

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		trigger significant penalties (the would lead to economic infeasibility) for delays in commercial operations according to the terms of the power purchase agreement (PPA) or offshore wind renewable energy certificate (OREC) agreement" are likely unreasonable.11 As a result, in weighing whether a proposed alternative is reasonable, and warrants further consideration, the agency must consider whether the alternative would result in the development of a project that would not allow the developer to satisfy contractual offtake obligations. As such, Alternatives that may result in significant Project delays or a reduction in generated capacity due to removal of turbine positions beyond the 704 megawatts (MW) design of the Project do not meet the Project purpose and need as identified in the BOEM guidance for identifying alternatives for offshore wind.12 When considering which technologies within the Project envelope could support alternatives, BOEM is required to provide a "reasonable alternatives that are technically and economically feasible and meet the purpose and need of a proposed action"13, which the Department of the Interior expanded to note "technically and economically practical or feasible".14 Therefore, BOEM should only consider those technologies that are commercially available and within timing constraints of the Project to procure delivery of WTGs to meet the schedule outlined in the Section 1.2 of the DEIS. For example, Alternative F includes larger turbines which are not commercially available in line with the Revolution Wind project timeline, as clarified and confirmed in the January 2022 letter from Siemens Gamesa (Attachment A), which details an evaluation of the 14 MW WTG and the technical infeasibility for these turbines to be utilized for the Revolution Wind Project due to anticipated installation schedule, certification timelines, and limited production capacity. As such, Alternative F would not satisfy the PPAs to deliver offshore wind energy to the transmission grid beginning in 2024 and does not satisfy the BOEM definition of a "reasonable alternative". When discussed throughout the Alternatives feedback, technical feasibility also considers foundation design and fabrication limitations, cable sizing and ordering, and lengthy certification processes that can limit the ability of Revolution Wind to make significant changes to design at late stages of development without impacting the Project's ability to meet milestone requirements of the PPAs. As discussed below, Revolution Wind provides additional detail for how many of the proposed Alternatives, including C, D, and E are not technically or economically feasible as they are currently configured, and thus are not reasonable alternatives.	BOEM, with the assistance of NREL and other technical experts, has independently reviewed the information provided by the Lessee and concluded that the potential project delays and cost expected to result from adoption of the alternatives would not render the Project technically or economically infeasible. While BOEM acknowledges that a decision to select alternatives C, E, and F, or any combination thereof, is not without consequence, for purposes of NEPA they remain viable alternatives for the decision maker to consider. BOEM will continue dialogue with Revolution Wind in order to receive additional information that should be considered at the ROD stage.
BOEM-2022-0045-0071	8	We also support no surface occupancy in 1+ outermost portion of project area (Alternative D) to allow transit lane of ~4 nm. This alternative proposes fewer turbine locations (78-93) based on the maximum capacity identified in the PDE of 880 MW. Across all alternatives, the FEIS should assume the same turbine capacity and project power capacity to be able to evaluate and compare the likely impacts.	Thank you for the comment. After carefully considering the EIS alternatives, including comments from the public on the EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0086	9	Alternatives C-1 and C-2 pose three key significant challenges for Revolution Wind. Although C1 retains the minimum number of positions that Revolution Wind intends to construct to meet PPA obligations, this Alternative includes no contingency locations for unforeseen circumstances. C2 does not provide the minimum number of positions that Revolution Wind intends to construct and would not allow Revolution Wind to meet PPA obligations. Alternatives C1 and C2 would create an electrical system imbalance between the two offshore substation (OSSs) that would result in an almost complete redesign of the system, and very likely force a schedule delay beyond the milestone requirements of Revolution Wind's PPAs. Alternatives C1 and C2 would force Revolution Wind to use most or all the WTG locations in the area west of South Fork (WSFW; the southwest portion of the lease area), which pose a substantial installation challenge due to high bolder densities and increases impacts to significant geologic and benthic habitats. Electrical System Compared to a more balanced layout configuration between the two OSSs (i.e., similar number of WTGs at similar distances) alternatives C1 and C2 would result in a significant increase in required inter-array cable lengths, particularly pertaining to those connected to the southern OSS. In addition, a redesign of the collection system would be required with longer, and likely larger cross section inter-array cables. There would also be knock-on effects that would cause changes to the high voltage components on the OSS (specifically the shunt reactors) and the export cable size. Both would require a size increase to balance the increased system impedance associated with alternatives C1 and C2. A change of the export cable size would require a redesign of the Horizontal Directional Drill (HDD) at the landfall and components on the onshore substation (OnSS). Longer inter-array cables will reduce the system availability and efficiency, which will result in a less reliable supply of electricity to consumers. Given the soil conditions in the lease area, a stable and efficient electrical system is designed using six WTGs per string. Isolated islands of WTGs, such as the three north of the southern OSS in Alternative C1, will negatively impact system efficiency significantly. Longer inter-array cables, potentially larger export cable cross sections and shunt reactors will also result in significant cost increases for the Project. Significant schedule delays would be expected as components that are designed and in fabrication workstreams would have to be redesigned and new fabrication slots secured. Schedule delays of at least 6 months, but potentially much higher are to be	The proposed Project, as described in the COP, includes WTG dimensions that would allow for a 220-meter rotor diameter WTG. As such, BOEM analyzed larger turbines consistent with Revolution Wind's PDE parameters. BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP in fulfillment of BOEM's duties under the lease. BOEM, with the assistance of NREL and other technical experts, has independently reviewed the information provided by the Lessee and concluded that the potential project delays and cost expected to result from adoption of the alternatives would not prevent the Project from meeting BOEM's purpose and need. While BOEM acknowledges that a decision to select alternatives C, E, and F, or any combination thereof, is not without consequence, for purposes of NEPA they remain viable alternatives for the decision maker to consider and would not ultimately result in an inability to move forward with the project.

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		expected. Furthermore, system reliability changes caused by Alternatives C1 and C2 would have to be assessed by ISO New England (ISO-NE), which would have additional schedule implications due to the timing of the Material Modification Determination (MMD) (see "ISO New England Material Modification Determination Process" section below for additional details). Installation The majority of the WTG positions in the area WSFW fall within boulder fields that have significant geologic and benthic habitat complexity. Around half of the potential WTG positions in the WSFW area have more than 1,500 boulders larger than 1 meter within the foundation installation footprint. This amount of boulders is unprecedented and introduces both technical feasibility as well as a substantially increased duration of the associated boulder relocation campaign, which would increase the overall risk for delays during installation. In addition, relocation of these boulders during seabed preparation would significantly increase the impacts to areas of complex geologic and benthic habitat. In particular, it would disproportionately affect glacial moraine areas that are dominant in the installation footprint when connecting the WTG locations in the area WSFW to the southern OSS. In conclusion, most, if not all, of the WTG locations in the area WSFW have significant installation challenges that would unduly increase the risk profile for the Revolution Wind project (both from an installation feasibility standpoint as well as health and safety) and would result in significant impacts to particularly complex geologic and benthic habitats.	
BOEM-2022-0045-0069	9	Project design o If turbines larger than 12 MW are available by the time of construction, the developer should aim to use larger turbines to reduce the number of foundations within the wind farm. This will reduce the area of benthic disturbance and the amount of pile driving.	Thank you for your comment. The development of the EIS has been based on the Applicant's Project Design Envelope (PDE) which includes a range of 8 to 12 MW capacity turbines. As part of the Record of Decision, BOEM could choose to incorporate other potential monitoring and mitigation measures to reduce benthic disturbance.
BOEM-2022-0045-0086	10	As one of the very first developers in the region, Revolution Wind has advocated for adopting an offshore wind farm layout that follows a 1 x 1 nautical mile (nm) grid WTG layout. Revolution Wind has further committed to ensuring at least 0.6 nm corridors in any direction to ensure compliance with the USCG navigational safety risk assessment. Additional information on this 1 x 1 nm layout can be found in The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS) completed by the United States Coast Guard (USCG).15 In doing so, Revolution Wind reduced the number of overall WTGs that would be installed in the lease area compared to standard layouts seen globally; giving up a significant number of positions that would have been able to support the clean energy goals of the Northeast states. Revolution Wind also notes that the South Fork Wind approval does not include transit lanes along the southern edge of its lease area, so Alternative D1 (removal of the southernmost WTGs) would not result in a contiguous transit lane in the south end of the Revolution Wind lease area. Moreover, BOEM also chose not to include a transit lane in the nearby Vineyard Wind approval, Electrical System From an electrical perspective the removal of positions in the north-west as suggested in D3 is undesirable as these positions are close to the northern OSS and the point of interconnection. Due to this proximity, they contribute comparatively low impedance to the collection system and are therefore increasing the reliability of the system. However, it is noted there is a potentially feasible path forward that is in line with the intention of Alternative D3. Removal of the southern row as suggested in D1 is undesirable due to the proximity of six WTGs to the southern OSS. Installation Removal of the north-western diagonal (D3) and eastern rows (D2) is undesirable as it removes locations that are in areas of particularly low geologic complexity. In these, only very little seabed preparation (i.e. boulder relocation) is required and therefore they represent positions with a comparatively much lower risk profile for the Revolution Wind Project and minimal environmental impacts. As outlined in the comments to Alternative C, connecting a limited number of WTGs in the area WSFW to the southern OSS unduly increases the risk profile for the Project and the impact to particularly sensitive benthic habitats.	The proposed Project, as described in the COP, includes WTG dimensions that would allow for a 220-meter rotor diameter WTG. As such, BOEM analyzed larger turbines consistent with Revolution Wind's PDE parameters. BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP in fulfillment of BOEM's duties under the lease. BOEM, with the assistance of NREL and other technical experts, has independently reviewed the information provided by the Lessee and concluded that the potential project delays and cost expected to result from adoption of the alternatives would not prevent the Project from meeting BOEM's purpose and need. While BOEM acknowledges that a decision to select alternatives C, E, and F, or any combination thereof, is not without consequence, for purposes of NEPA they remain viable alternatives for the decision maker to consider and would not ultimately result in an inability to move forward with the project.
BOEM-2022-0045-0069	10	The DEM is supportive of a 1 x 1 NM turbine grid layout to improve safety and fishing ability of the windfarm as best as possible.	Thank you for your comment.
BOEM-2022-0045-0086	11	Wind would be remiss to not clearly outline the Project's commitment to implement an Aircraft Detection Lighting System (ADLS), as mentioned throughout the DEIS. The DEIS notes that should ADLS be implemented, the relative impact ratings to several resources for nighttime conditions would be substantially diminished, including but not limited to, visual resources. Revolution Wind respectfully informs the BOEM team that ADLS will be implemented as a mitigation measure throughout operation and will reiterate that commitment in its forthcoming comments on the draft Memorandum of Agreement and the Finding of Effects under Section 106. Alternative E1 Alternative E1 would result in an almost complete redesign of the electrical system and very likely a schedule delay beyond the milestone requirements of Revolution Wind's PPAs. Similarly, to Alternatives C1 and C2, Alternative E1 does not provide the minimum number of positions Revolution Wind intends to	The proposed Project, as described in the COP, includes WTG dimensions that would allow for a 220-meter rotor diameter WTG. As such, BOEM analyzed larger turbines consistent with Revolution Wind's PDE parameters. BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP in fulfillment of BOEM's duties under the lease. BOEM, with the assistance of NREL and other technical experts, has independently reviewed the information provided by the Lessee and concluded that the potential project delays and cost expected to result from adoption of the alternatives would not prevent the Project from meeting BOEM's

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		construct. Electrical System This alternative represents a significant increase in the required inter-array cable length connecting turbines to the northern OSS as well as the southern OSS. As previously outlined to BOEM staff, relocation of the OSS to reduce inter-array lengths and associated system impedances is not feasible at this stage. Redesign of the collection system with longer, and larger cross section inter-array cables will have knockon effects requiring size increase of high voltage components on the OSS (specifically the shunt reactors) and the export cable. A larger export cable size would then also require a larger size of the HDD and components on the OnSS. To maximize electrical efficiency, the inter-array cable system is designed for six WTGs per string, which is, among other things, driven by the soil conditions at the site. Isolated islands of WTGs, such as the area WSFW are undesirable. Longer inter-array cables, potentially larger export cable cross sections and shunt reactors will have significant cost implications. There would be a high risk for schedule delays as components that are designed and in fabrication workstreams would have to be redesigned and fabrication slots secured. A schedule delay of at least 6 months, but potentially much longer, would be expected. System reliability concerns would have to be assessed by ISO-NE, which has schedule implications due to the MMD process. Installation Removal of positions in the north is undesirable as it removes locations that are in areas of particularly low geologic complexity. In these areas only very little seabed preparation (i.e. boulder relocation) is required and therefore they represent positions with a comparatively much lower risk for schedule delays during installation. As outlined in the comment to Alternative C, connecting a limited number of WTGs in the area WSFW to the southern OSS unduly increases the risk profile for the project and the impact to particularly sensitive benthic habitats. Alternative E2 Due to the reasons outlined below, Alternative E2 would require a complete redesign of the electrical system, new geophysical and geotechnical surveys, and very likely a schedule delay beyond the milestone requirements of Revolution Wind's PPAs. However, it is noted that as opposed to Alternative E1, there is a potentially feasible path forward that is in line with the intention of Alternative E2. Electrical System Alternative E2 represents an increase in the required inter-array cable length connecting turbines to the northern as well as the southern OSS. As previously outlined to BOEM staff, relocation of the OSS to reduce inter-array cable lengths and associated system impedances is not feasible at this stage. Redesign of the collection system with longer, and larger cross section inter-array cables will have knock-on effects requiring size increase of high voltage components on the OSS (specifically the shunt reactors) and the export cable. A larger export cable size would then also require a larger size of the HDD and components on the OnSS. To maximize electrical efficiency, the inter-array cable system is designed for six WTGs per string, which is, among other things, driven by the soil conditions at the site. Isolated islands of WTGs such as the area WSFW are undesirable. Longer inter-array cables, potentially larger export cable cross sections and shunt reactors will have significant cost implications. High risk for schedule delays as components that are designed and in fabrication workstreams would have to be redesigned and fabrication slots secured. A schedule delay of at least 6 months, but potentially much longer, would be expected. System reliability concerns would have to be assessed by ISO-NE, which has schedule implications due to the MMD process. Installation Removal of positions in the north is undesirable as it removes locations that are in areas of particularly low geologic complexity. In these only very little seabed preparation (i.e. boulder relocation) is required and therefore they represent positions with a comparatively much lower risk for schedule delays during installation. As outlined in the comment to Alternative C, connecting a limited number of WTGs in the area WSFW to the southern OSS unduly increases the risk profile for the project and the impact to particularly sensitive benthic habitats.	purpose and need. While BOEM acknowledges that a decision to select alternatives C, E, and F, or any combination thereof, is not without consequence, for purposes of NEPA they remain viable alternatives for the decision maker to consider and would not ultimately result in an inability to move forward with the project.
BOEM-2022-0045-0110	13	Alternatives C and E take measures to avoid or minimize impacts to habitat areas and culturally significant resources, making them more responsible alternatives. We support Alternative C based on the benefits to benthic habitat and essential fish habitat but emphasize that the concerns raised by the Tribes must be addressed. The Mashpee Wampanoag Tribe of Gay Head (Aquinnah) have identified certain views from the Gay Head Cliffs (Aquinnah Cliffs) on Martha's Vineyard as important to their oral history, traditions, cultural practices, and as a traditional cultural property (TCP) associated with the Wampanoag cultural hero Moshup. The tribe is especially concerned about the siting of WTGs affecting sunset views from Gay Head and that the introduction of offshore wind infrastructure will adversely affect the recently identified Vineyard Sound and Moshup's Bridge TCP and the Gay Head Cliffs National Natural Landmark (which is also part of the traditional cultural property).41 Alternative E was specifically designed to address these concerns. Inasmuch as Alternative E adequately addresses tribal concerns, we support the measures therein; addressing these concerns, in combination with Alternative C, may require larger turbines, as contemplated in Alternative F, to generate enough capacity to meet the 704 MW total of the three Power Purchase Agreements this project is meant to fulfill.	Thank you for the comment. BOEM has consulted with and will continue to consult with potentially impacted tribes to address their concerns.

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BOEM-2022-0045-0100	22	The description of this alternative should be revised to include cod spawning activity. While the description of C2 includes cod spawning activity, as discussed with BOEM and illustrated in the prioritization of areas for turbine removal, the primary focus of the alternative development was to minimize impacts to cod spawning activity in addition to complex habitat. Cod spawning activity should be accurately described as a primary focus for this alternative.	BOEM has added additional language to Section 2.1.3 and Appendix K of the EIS.
BOEM-2022-0045-0100	23	The description of the alternatives should be revised to exclude the statement "where micrositing is not possible." Micrositing was not considered in the development of this alternative and is not factored into the selection of turbines for removal. If necessary, the potential for micrositing turbines that would not be removed under this alternative into soft bottom habitats can be mentioned as an additional mitigation measure.	Alternative descriptions have been revised to remove "where micrositing is not possible."
BOEM-2022-0045-0100	24	The reference to coordination with NMFS should be clarified. Specifically, we did not recommend narrowing the alternative to two options, rather we reviewed and agreed that the configurations, as presented in the DEIS, were reasonable layout options for turbine removal considering the priorities of avoiding impacts to cod spawning activity and habitat complexity; based upon the data available at the time of our review. We cautioned against making a predetermination of which turbines should be removed and recommended the layouts be presented as options for illustrative purposes and examples in the DEIS for how this alternative could avoid and minimize impacts to cod spawning and complex habitats. The reference to coordination with NMFS should be clarified to indicate that the presented alternatives were selected by BOEM.	Clarifying text has been added to Section 2.1.3
BOEM-2022-0045-0101	24	WTG Minimization and Cumulative Visual Impacts MP-THPO Comments and Concerns Each additional WTG impacts our traditional lands by adding another foundation and inter-array cables that may disturb the paleolandscape. Reducing the number of WTGs to the bare minimum required by the PPAs for the Project would minimize these impacts. Additionally, these projects currently have a 25 – 30-year cycle before evaluation of continuance or decommissioning. The renewable future (today) is not clear. New renewable power generation plants may be developed in terrestrial (dry) areas within that 30-year time frame. This would lessen the dependence for power to come from our ancestral TCP's, thereby lessening impacts to the OCS. Research and Document Review Summary DEIS Alternatives C through F (DEIS Sections 2.1.3 through 2.1.6, respectively)—which are alternatives designed to minimize impacts to local habitats, transit activities, and viewsheds as well as allow for higher-capacity WTGs—provide possibilities for anywhere from 56 to 93 WTGs instead of the 100 proposed by Alternative B (execute the Project IAW the COP issued by Ørsted). Only Alternative A, which would entail BOEM refusing to allow the project to proceed, would add no WTGs from the Project. (Alternative A, however, does not preclude the construction of future projects.)	Thank you for the comment.
BOEM-2022-0045-0100	25	The provided figures for Alternative C do not illustrate the data that BOEM relied upon in the identification of turbines considered for removal. While some of the data used is illustrated in Appendix K, the provided figures (Figure 2.1-8 and Figure 2.1-9) in the presentation of the alternative should clearly depict the data used to determine the considered turbine removal locations to provide the reader with the appropriate context and clearly illustrate what resource impacts will - and will not - be avoided or minimized under the alternative.	Thank you for your recommendation. A detailed description of the development of Alternative C is provided in Appendix K of the EIS, including Figure K-1, Figure K-2, and Figure K-3. Appendix K includes a description of the data used for WTG placement, consisting of: • GARFO's identified priority areas • Maintaining continuity of complex habitat • Boulder density (higher density areas were avoided over lower density areas) • Multibeam backscatter data (high backscatter areas were avoided over lower backscatter areas) and, • Engineering considerations such as maintaining linearity of inter-array cable layouts and maintaining offshore substation locations Additionally, new Figure 3.6-3 and Figure 3.6-5 have been added in Section 3.6 Benthic Habitat and Invertebrates that include overlays of boulder field classifications.

Alternatives Not Analyzed In Detail

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BOEM-2022-0045-0101	23	Cable Emplacement—Common Corridors and Submerged Landscapes MP-THPO Comments and Concerns. The following also apply to future projects in the MA/RI WEAs: • Common cable paths are needed instead of a conglomeration of cables that look like a plate of spaghetti; disruption cannot be mitigated by digging up the entire ocean floor. • Export cable-related mitigation measures are needed for the submerged land that our people once walked. • Common cable corridors that are negotiated with the tribes and other stakeholders, along with full proper marine archaeological and geotechnical surveys as outlined in this document, must be conducted to establish the best routes to shore shared by all proposed wind energy projects. The MPTN feels this is the only way to minimize ocean floor impacts. The MPTN understands that a common cable path would create greater impact in a confined area; however, it is far better than scattered impacts of multiple offshore export cable corridors all throughout the eastern seaboard, which is the current approach. Deep geophysical surveys would need to be conducted to "clear" the corridor route. Tribal input must be considered in route selection and archaeological analysis interpretation, resulting in additional core sampling being conducted. The MPTN feels that other routes were not fairly considered; explanations for why other routes cannot be used have ranged from ocean floor surface terrain conditions to infrastructure constraints at researched landing sites. Yet we have participated in many consultation meetings with various stakeholders, including companies responsible for laying cables that claim the methods used today are modern and innovative. The bottom line for the MPTN is that there appears to be no will to honestly identify other routes and methods. The established WEA leases are conjoined off the New England coastline; therefore, all projects should agree to traverse cables through one corridor route. Once a common location is established, electric transmission providers such as Eversource are responsible for determining how to route power to the various states to comply with their individual power purchase agreements (PPAs). Research and Document Review Summary Section 2.1.7 of the DEIS, Alternatives Considered But Dismissed from Detailed Analysis, provides an alternative that "uses common cable routing corridors with adjacent projects to facilitate avoidance and minimization of impacts to resources by reducing the number of corridors and allowing for programmatic-level review and comment." Per Table 2.1-17, BOEM dismissed that alternative because "(t)he Project intends to deliver power to the existing Davisville Substation in North Kingstown, Rhode Island, and none of the projects for which COPs are under consideration intend to deliver power to areas that will have cables located in that general location" Recommended Action Item Consider common cable routes to reduce seabed disturbance, the concerns identified in Section 2.1.7 notwithstanding.	The lease action was analyzed in BOEM's Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf was the establishment of the Marine Minerals Management Service Alternative Energy and Alternate Use Program on the Federal Outer Continental Shelf which complied with the procedural requirements of NEPA including coordination with agencies, tribes and public review. BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486. The purpose and need in the EIS reflect the requirement per those regulations, whereas BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP, is needed to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. BOEM's screening criteria is presented in Appendix K, Additional Analysis for Alternatives Dismissed, of the Final EIS.
BOEM-2022-0045-0102	18	Government accounted for the environmental footprint of only the lease area itself when first beginning wind farm projects in the area—not concerns related to cables and the path to the grid. (Cable corridors containing five cables can be as wide as 800 meters.) Research and Document Review Summary Section 2.1.7 of the DEIS, Alternatives Considered But Dismissed from Detailed Analysis, provides an alternative that "uses common cable routing corridors with adjacent projects to facilitate avoidance and minimization of impacts to resources by reducing the number of corridors and allowing for programmatic-level review and comment." BOEM dismissed that alternative because "(t)he Project intends to deliver power to the existing Davisville Substation in North Kingstown, Rhode Island, and none of the projects for which COPs are under consideration intend to deliver power to areas that will have cables located in that general location" (DEIS Table 2.1-17). Recommended Action Items Consider common cable routes to reduce seabed disturbance, the reasoning for not doing so identified in Section 2.1.7 notwithstanding.	Comment noted. BOEM will consider common cable routes in future NEPA assessments as appropriate. For purposes of this EIS, the rationale for not considering shared cable routes presented in Section 2.1.8 remains valid.

Cumulative Analysis

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BOEM-2022-0045-0119	3	As far as the deis goes in the DEIS BOEM conflates the no action alternative with the cumulative impacts alternative, which is completely unacceptable. They should be two different sections two completely different sections. They are two completely different NEPA requirements, um, and putting them together as if it is one issue is unreasonable, and it's arbitrary and capricious on the agency's part earlier on the presenter said that the navigation impacts were the same whether it was the proposed action or the no action alternative, and that is only because BOEM has conflated no action with cumulative impacts alternative. and the No action alternative in the document includes build out of all the current leases, even those currently unapproved which is truly a cumulative impact analysis. Not a no, not a no action analysis. Um. So by doing that the impacts of this project are downgraded in the BOEM analysis, and that's unacceptable, and I would request that BOEM reissue the DEIS with a true no action alternative, and a true cumulative impacts alternative in the documents and corresponding analyses.	Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the proposed action and action alternative. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives .The analysis of the No Action Alternative has been updated to better describe impacts of the No Action in relation to the existing baseline and in relation to cumulative activities. Impact-level conclusions for the No Action have been reviewed and revised in the Final EIS as appropriate.
BOEM-2022-0045-0059	4	The DEIS states that BOEM's 2019 study National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Continental Shelf 13, completed in May 2019 is the study which identifies past, present and reasonable foreseeable actions in the North Atlantic that BOEM incorporated into the EIS analysis for Revolution Wind.14 However, the reasonably foreseeable future actions have increased since 2019, and BOEM should adjust its cumulative impact analysis accordingly as the 2019 study is now outdated. The 2019 BOEM cumulative impacts study set the threshold for "reasonably foreseeable" as the "State Capacity Planned Commitment for Existing Atlantic Leases", which was 21.8 GW in 2019.15 However, the state planned capacity has risen sharply since 2019. It is now well over 40 GW. For example: - Maine has a target of 5 GW by 2030. 16 - Massachusetts as of March 2022 has a target of 5.7 GW by 2027. 17 - Rhode Island in 2022 signed legislation procuring up to 1,000 MW. 18 - Connecticut has a legislative target of 2,000 MW by 2030, with recommendations for 4,000 MW. 19 - New York in 2022 issued its third power solicitation to add another 2 GW to its procurement goals, for a total of 9 GW by 2030. 20 - New Jersey in 2022 increased its offshore wind target to 11 GW by 2040. 21 - Maryland in 2021 increased its offshore wind market to 2,022.5 MW, an increase from 2019. 22 - Virginia in 2020 passed legislation increasing its offshore wind power requirements to at least 5.2 GW by 2034. 23 - North Carolina in 2021 passed an Executive Order establishing a goal of 2.8 GW of offshore wind by 2030 and 8 GW by 2040. 24 Although some of these commitments may exceed the planned commitment for existing Atlantic leases category and fall into the pledged commitment category, it is inarguable that states have increased procurement and planned procurement since 2019. This is combined with additional leases since 2019. BOEM auctioned off six additional leases in the NY Bight in 2022, totaling nearly half a million acres of ocean floor.25 These cannot be ignored but must be included. BOEM's Central Atlantic Call Area, totaling over 3.8 million acres, also cannot be ignored.26 Although BOEM's 2019 document does not consider Call Areas to be reasonably foreseeable but only preliminary,27 BOEM has indicated on Central Atlantic public meetings that it expects to identify and lease areas in the Central Atlantic in late 2022. In this case, the leases identified as part of that process would also need to be included in the cumulative impacts analysis of the Revolution Wind DEIS/FEIS, as that leasing would be complete prior to the approval of any Revolution Wind DEIS alternatives. Therefore, with the additional state planned procurement and additional leases since 2019, the 2019 BOEM cumulative impacts analysis study is no longer accurate. BOEM must update its cumulative impacts analysis with the increased state planned capacity commitment as well as recent New York Bight leases and any Central Atlantic leases in the Revolution Wind DEIS cumulative impacts scenario. We request that BOEM initiate a new cumulative impacts study incorporating these increased impacts for the Revolution DEIS and make that updated cumulative impacts analysis available for public comment as	Detailed information regarding reasonably foreseeable offshore wind projects is provided in Appendix E of the EIS. BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific environmental consequences section in Chapter 3 of the EIS. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline. Reasonably foreseeable future actions include the build-out of executed renewable energy lease areas. While the BOEM (2019) study was incorporated by reference, it was not the sole basis for determining cumulative activities. BOEM developed the cumulative offshore wind estimates based on offshore wind demand, and by summing acreage or number calculations across all lease areas noted as occurring within, or overlapping, a given geographic analysis area. This likely overestimates some impacts in cases where lease areas only partially overlap analysis areas. However, this approach was used to provide the most conservative estimate of future offshore wind development within the analysis period.

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		part of the DEIS process before completion of the FEIS. Accurate cumulative impacts analysis is necessary in particular for analyzing impacts to federally permitted fisheries which operate from Maine to North Carolina in the Greater Atlantic Regional Office jurisdiction. Footnote 13: See (OCS Study 2019- 036) (BOEM 2019). Footnote 14: DEIS, p. 1-9. Footnote 15: See National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Continental Shelf , OCS Study 2019- 036) (BOEM 2019) https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Impact-Producing-Factors-in-the-Offshore-Wind-Cumulative-Impacts-Scenario-on-the-South-Atlantic.pdf, p. 29. Footnote 16: See : Offshore Wind | Governor's Energy Office (maine.gov) Footnote 17: See Massachusetts (United States) targets 5.6 GW of offshore wind capacity by 2027 | Enerdata. Footnote 18: See Governor McKee Signs Legislation Requiring Offshore Wind Procurement for 600 to 1,000 Megawatts | Rhode Island Office of Energy Resources. Footnote 19: See Connecticut Looks Before It Leaps on Offshore Wind | Clean Energy Finance Forum. Footnote 20: See NY issues third offshore wind solicitation, seeking at least 2 GW | Energy News Network and Governor Hochul Announces New York's Third Offshore Wind Solicitation to Accelerate Clean Energy Development | Governor Kathy Hochul (ny.gov). Footnote 21: See New Jersey snatches US offshore wind crown with new nation-leading 11GW state target | Recharge (rechargenews.com) Footnote 22: See Offshore Wind (maryland.gov) Footnote 23: See Virginia governor signs off on 5.2 GW by 2034 offshore wind target - Offshore Energy (offshore-energy.biz). Footnote 24: See North Carolina sets an 8GW offshore wind target for 2040 - REGlobal - Big Moves and PowerPoint Presentation (nc.gov). Footnote 25: See https://www.boem.gov/renewable-energy/state-activities/new-york-bight. Footnote 26: See https://www.boem.gov/renewable-energy/state-activities/central-atlantic-activities. Footnote 27: See National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Continental Shelf , OCS Study 2019- 036) (BOEM 2019) https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Impact-Producing-Factors-in-the-Offshore-Wind-Cumulative-Impacts-Scenario-on-the-South-Atlantic.pdf, p. 29.	
BOEM-2022-0045-0119	5	the cumulative impact section must include locations and breadth of all the subsea cables. From this project and all other projects in the reason in the region BOEM continues to ignore the hazards and the significant individual and cumulative impacts of export tables on fisheries, um commercial fisheries with mobile bottom tending gear will not be able to safely operate over export tables or inter-array cables BOEM has said in previous the EISs well the cable route is narrow. It's only going to be a minor impact. It's it's nothing really worth analyzing. That is not accurate. When you consider the spiderweb of cables the export tables included that are going to arise from all of the proposed projects, and I would request that in this DEIS BOEM go back to the drawing board. Put a chart of all of the proposed export cable routes, and the multiple cables that will be in them, and the wet, the the breadth of those cables, and the length of those cables, and conduct a cumulative impact analysis on fisheries with those cables, because much more area will be lost to fisheries than is just consumed by the one hundred turbines themselves. Areas outside of the lease will also be lost to fisheries because of the export tables.	Export cables were estimated for all foreseeable projects within the GAAs as presented in Appendix E3. Most export cable routes are proposed at this stage and subject to change, however, the impacts from installation, O&M, and removal of these cables were considered in the cumulative analysis.
BOEM-2022-0045-0071	15	In terms of cumulative effects, the DEIS considers future offshore wind energy activities in other lease areas as part of future baseline conditions against which the impacts of this project are compared (Appendix 3, Table E3-1). As we understand it, the DEIS has two baseline conditions, one with other wind projects and one without. The alternatives should be compared against both sets of conditions in a consistent way.	Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the proposed action and action alternative. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions)

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			provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
BOEM-2022-0045-0100	20	We request that reasonably foreseeable impacts be defined based on the 2020/22 CEQ regulations (40 CFR 1508.1) under which this document is written, ""Reasonably foreseeable means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision."" The text here, ""Reasonably foreseeable can occur from individually minor but collectively significant actions that take place over time"" is the definition of ""cumulative impacts"" as defined in both the 1978 (40 CFR 1508.7)) and 2022 (40 CFR 1508.1) regulations. " Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."" Additionally, cumulative impacts should be incorporated in a separate analysis from the No Action Alternative.	Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the proposed action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives. The Final EIS has been updated to better delineate the impacts of the alternatives, including the No Action, against ongoing activities and against future baseline conditions (i.e., cumulative impacts).
BOEM-2022-0045-0101	33	Recommended Action Items • Consider each individual project as one overarching project to better account for cumulative effects and lessen the administrative burden on the THPO.	The lease auction was analyzed in BOEM's Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf was the establishment of the Marine Minerals Management Service Alternative Energy and Alternate Use Program on the Federal Outer Continental Shelf which complied with the procedural requirements of NEPA including coordination with agencies, tribes and public review. Appendix E provides an analysis of the impacts of the types of actions (including the future action of approving wind farm development activities other than the Project) that BOEM has identified as potentially contributing to the impacts from the planned actions when combined with impacts from the Proposed Action and other alternatives over the geographic and time scale identified. BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific environmental consequences section in Chapter 3 of the EIS. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline. Reasonably foreseeable future actions include the build-out of executed renewable energy lease areas.

Decision Process

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BOEM-2022-0045-0065	5	Existing activities supporting the Revolution Wind project, such as geological and geophysical surveys, do not comply with NEPA and other applicable laws.	Thank you for your comment. The 2013 lease sale EA referenced in Table 1.4-1 of the EIS considered impacts resulting from site characterization and site assessment activities. The analysis found in the EA provided NEPA coverage for said activities. This EIS considers impacts from past, ongoing, and future activities, including the site characterization and site assessment activities that will be needed for finalizing the design and installation reports for the construction of this project.
BOEM-2022-0045-0086	7	It is important to note that, in addition to the BOEM-led National Environmental Policy Act (NEPA) process, the Project is also being reviewed through a robust state permitting process, including the Rhode Island Department of Environmental Management (RIDEM), the Rhode Island Coastal Resources Management Council (CRMC), the Massachusetts Office of Coastal Zone Management (MA CZM), as well as various State Historic Preservation Offices (SHPOs) including the Rhode Island Historic Preservation & Heritage Commission (RIHPHC), the Massachusetts Historical Commission (MHC), the Connecticut State Historic Preservation Office, New York State Division of Historic Preservation, and the Massachusetts Board of Underwater Archaeological Resources through Section 106 of the National Historic Preservation Act. The Project is also coordinating with federally and non-federally recognized Tribal Nations, local governments, and non-governmental organizations.	Thank you for the comment. Appendix A discusses federal and state required permits and consultations for the project and lists them in Table A-1. Text has been added to the introduction of Table A-1.
BOEM-2022-0045-0065	11	BOEM and the U.S. Department of the Interior appear to be applying conflicting environmental regulations and policies to their OSW project reviews, including NEPA and interagency agreements. Some of these contradictions are summarized in RODA's Ocean Wind scoping comments (Appendix III) and others including those submitted on another recent Atlantic Ørsted project (e.g. South Fork). The public cannot be prepared to offer comment—and BOEM cannot release a DEIS for such comment—when there is no certainty as to what laws and policies will apply to the agency's review. The fishing industry, and other sectors, are persistently confused by BOEM's process, how to engage, and the potential benefits of engagement. Again, we call on BOEM to provide this transparency and a balanced and coherent planning process.	Comment noted. This comment lacks the necessary specificity to provide a detailed response. However, we have reviewed the documents the commenter referenced, which relate to different projects. BOEM prepared the DEIS and has incorporated all comments received and prepared responses in this appendix as part of the NEPA process. BOEM will follow its regulations regarding COP approval.
BOEM-2022-0045-0069	13	Seafloor disturbance, sediment suspension, boulder relocation, and deposition in Rhode Island state waters will all be reviewed in greater detail through the RIDEM permitting process for a Water Quality Certification (RIGL § 46-12-3 and 250-RICR-150-05-1.1 et seq. – federal authority delegated to the State pursuant the Clean Water Act [CWA], 33 U.S.C. §§ 1341-1342) and a Dredge Permit (pursuant to the Rules and Regulations for Dredging and the Management of Dredged Materials - 250-RICR-150-05-2.1 et seq.).	Thank you for the comment. Appendix A discusses federal and state required permits and consultations for the project and lists them in Table A-1. Text has been added to the introduction of Table A-1.
BOEM-2022-0045-0100	16	Please add the following footnote after the reference to the regulations, "(40 Code of Federal Regulations [CFR] 1500–1508": "This EIS is being prepared using the 2020 CEQ NEPA Regulations. The effective date of the 2020 CEQ NEPA Regulations was September 14, 2020, and reviews begun after this date are required to apply the 2020 regulations unless there is a clear and fundamental conflict with an applicable statute. 85 Fed. Reg. at 43372-73 (§§ 1506.13, 1507.3(a)). This EIS began on April 30, 2021 and accordingly proceeds under the 2020 regulations."	Thank you for you comment. BOEM has updated this section to clarify that this EIS was prepared in accordance with the 2020 CEQ NEPA regulations.
BOEM-2022-0045-0100	18	Please replace this sentence with the following for accuracy, "The National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS) received a request for authorization to take marine mammals incidental to construction activities related to the Project, which NMFS may authorize under the Marine Mammal Protection Act (MMPA)."	Thank you for the comment. Edits have been made.

Effects Analysis (General)

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0100	1	In our dual roles as both a cooperating and adopting agency, we provided comments on May 23, 2022, during an interagency review of the PDEIS. While some of our comments were addressed, a significant portion of the comments we provided during the cooperating agency review are not reflected or resolved in the current version of the DEIS. Thus, we remain concerned with the analysis of impacts from the project on NOAA trust resources.	Thank you for your comment. The FEIS has been updated in response to comments on the DEIS as outlined in the responses to comments provided in Appendix L.
BOEM-2022-0045-0086	1	Revolution Wind strongly agrees that offshore wind will provide the long-term benefits identified throughout the DEIS and believes the benefits of the Project should be evaluated and considered as prominently as the evaluation of impacts. Revolution Wind suggests that BOEM expand the discussion of these positive findings in the FEIS to emphasize and balance those benefits in comparison to the impacts.	Thank you for the comment. Beneficial project impacts have been highlighted in the Chapter 3 resource area analyses, Chapter 2 Table 2.3-1 Summary and Comparison of Impacts by Alternative, and in Executive Summary Table ES-2.
BOEM-2022-0045-0071	1	Given the current pace of offshore wind energy development in this region and workload constraints, we are unable to provide a detailed review of this project. The analysis in the DEIS has important ramifications for terms and conditions which may be implemented through final project approval, including fisheries mitigation and compensation measures. With this in mind, we strongly encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils, which apply across all projects.2 Our two Councils worked together on these policies and adopted the same policy language. We also urge BOEM to adopt the recommendations provided by NOAA Fisheries for this project, including recommendations regarding data considerations, impacts analysis, and ways to minimize the negative impacts of this project on marine habitats, commercial and recreational fisheries, and fishery species.	There are a number of monitoring reports that will be required such as weekly reporting of pile driving activity, sound source measurements, PSO data, and reporting all sightings of North Atlantic right whales. Appendix F of the EIS has also been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM fully supports regional monitoring and sharing data with the public as offshore wind development progresses and will incorporate results in future decisions.
BOEM-2022-0045-0069	1	The geographic area analysis for the analysis does not include adjacent leases. Therefore, prospective effects the area of interest has on adjacent areas and vice versa are not considered. This notion follows a similar concern of not evaluating the cumulative effects of development on these areas.	Where appropriate, The DEIS analysis did include adjacent leases. Section 3.1 explains how GAAs were applied and resource-specific GAAs were defined at the beginning of each resource section in Chapter 3 of the EIS.
BOEM-2022-0045-0065	1	RODA and its members have submitted hundreds of comment letters to BOEM and its cooperating federal and state agencies outlining significant concerns associated with offshore wind energy (OSW) development in the Southern New England region, where this project is proposed, and other areas that are essential to U.S. seafood production. These projects have become indistinguishable in most fundamental ways,2 yet BOEM continues to conduct environmental review using a piecemeal, rather than regional, approach. 2 If there are design or operational measures proposed for the Revolution Wind project (or future projects) that differ significantly from others in the region, BOEM should clearly present these to the public to inform responsive comments. It is neither reasonable nor achievable for seafood industry members to read thousands of pages of documents in dozens of projects over the span of mere months in order to participate in the environmental review process for the new OSW industry in Southern New England.	BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486. The purpose and need in the EIS reflect the requirement per those regulations, whereas BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP, to fulfill BOEM's duties under the lease. As outlined in Section 1.4, this EIS tiers to and incorporates by reference a number of programmatic assessments on wind energy development in the New England region. In support of the NEPA process, BOEM also develops white papers to provide detailed discussions of topics raised. These papers are summarized and iteratively incorporated into BOEM's offshore renewable energy NEPA documents as available. Completed BOEM white papers are available here: https://www.boem.gov/renewable-energy/national-environmental-policy-act-and-offshore-renewable-energy.
BOEM-2022-0045-0065	2	RODA provided comments and recommendations specific to the scoping process for the Revolution Wind project3 and on the project's Incidental Harassment Authorization4 under the Marine Mammal Protection Act. These comments covered a broad range of topics from the fisheries communication plan to the structure of NEPA analysis. The DEIS is nonresponsive to these constructive comments. As most of the issues outlined in RODA's previous letters on this project and others have not been addressed to date, we incorporate all past correspondence by reference and do not repeat the entirety of the consistent, clear, and reasonable requests our members have previously raised.5 5 In particular, RODA submitted comprehensive comments to BOEM pertaining to the South Fork and Ocean Wind project Draft EISs owned by the same company (Ørsted). As none of those comments or suggestions have yet been addressed, these letters remain directly applicable to the preparation of a DEIS for the Revolution Wind project and are therefore wholly incorporated by reference herein.	Comment noted. This comment lacks the necessary specificity to provide a detailed response. However, we have reviewed the documents the commenter referenced, which relate to different projects. BOEM is in Section 7 ESA and MMPA consultation with NMFS and will comply with applicable terms and conditions.

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BOEM-2022-0045-0100	3	The DEIS does not fully evaluate each alternative and, in many cases, the analysis does not provide any meaningful distinctions between the impacts of the action alternatives. While the document considers alternatives that would reduce the project size by one-third to one-half, BOEM concludes that there are no differences between the effects of the proposed action and any other action alternatives. We disagree with the conclusion that impacts to NOAA trust resources would be the same among all alternatives considered - impact minimization alternatives are included and evaluated based on the expectation that they will result in a measurable and meaningful reduction in substantial impacts to resources. For example, Alternative C (habitat impact minimization alternative), in combination with Alternative F (larger turbine size) could avoid most impacts to complex habitats and avoid areas of known Atlantic cod spawning activity; yet those reductions in impacts are not meaningfully discussed, analyzed, or explained. Alternatives C through F would result in a lower magnitude of noise exposure for marine mammals (due to the installation of fewer turbines), which could easily be quantified to demonstrate the reduced impacts associated with scaling down project size; however, that analysis is not included in the document. Moreover, the DEIS appears to lack any analysis of Alternative F, and while BOEM has not identified a specific layout for this alternative, the reduction in area and increased size of the turbines should be incorporated into the impacts analysis and should, at a minimum, be qualitatively discussed.	The impacts of each alternative align with the appropriate impact level as defined in Section 3.4 and are supported by the analysis. BOEM acknowledges the importance of describing nuanced differences among alternatives, particularly when those differences are not determined to change the overall impact determinations. The analysis has been updated throughout Chapter 3 where possible to further highlight the differences in impacts between alternatives, including when combined with Alternative F. The minimization of impacts is identified and quantified where possible in the Final EIS.
BOEM-2022-0045-0113	3	As BOEM works to develop a Final Environmental Impact Statement (FEIS), we urge the agency to ensure the maximum beneficial impacts are fulfilled by employing the following standards to create a high-road, responsibly developed offshore wind industry: Protect fisheries, wildlife, and marine ecosystems by avoiding, minimizing, mitigating, and monitoring environmental impacts; and, utilizing data sharing, the best available science and data, and adaptive management strategies;	Thank you for the comment.
BOEM-2022-0045-0100	4	In addition to the structure of the No Action alternative, we have identified two other elements that contribute to the lack of distinction among alternatives: (1) The scale of the geographic area analyzed for each resource; and (2) the significance criteria definitions and their application to the various resources. For example, the approach to the area of analysis for each resource is unclear. The DEIS explains that the geographic analysis area - a broader scale - is used for cumulative impacts, but for direct and indirect effects of the proposed action, impacts are predicted presumably on a finer scale defined by the Impact Producing Factor (IPF). It is unclear in Chapter 3 how this geographic analysis approach is applied on an IPF or resource basis as the parameters in many cases are not well-defined. Moreover, the importance of the temporal duration of impacts to resources is not clearly explained through the significance criteria or applied to the analysis in the document.	The geographic analysis area varies according to the anticipated geographic extent of impacts for each resource. The purpose is to capture the cumulative impacts on each of those resources that would be affected by the Proposed Action as well as the impacts that would still occur under the No Action Alternative. Impacts from both the proposed action IPFs and from cumulative activities are evaluated using the significance criteria defined in Section 3.3, which consider the potential for population-level impacts. Where applicable, the EIS discloses localized impacts (e.g., to Cox's Ledge) from IPFs, however, those impacts are also evaluated in the context of the broader resource extent within the GAA.
BOEM-2022-0045-0091	4	The DEIS identifies and evaluates six alternatives (including the Proposed Action and No Action alternatives) While we appreciate the work done by BOEM to analyze a number of alternatives, many of which on their face indicate an interest in exploring enhanced environmental outcomes, we are disappointed with the the manner in which the information related to the alternatives analysis is presented in the DEIS. As an initial matter, a summary table of the conclusions of the analysis for each alternative as it relates to a number of factors is provided on pages ES-7 to ES-10 of the Executive Summary. To quote the DEIS as to how that information is presented: The EIS uses four levels of classification to characterize the potential adverse or beneficial impacts as negligible, minor, moderate, or major. Chapter 2, Section 2.3 provides a summary and comparison of incremental and overall cumulative impacts by alternative, which is provided below as Table ES-2. Impacts include both Project-specific impacts and incremental impacts of the Project when combined with other current and reasonably foreseeable projects (i.e., cumulative impacts). Where directionality (e.g., adverse or beneficial) is not specifically noted, the reader should assume the impact is adverse. Green cell color represents negligible to minor adverse overall impact. Yellow cell color represents moderate adverse overall impact. Orange cell color represents major adverse overall impact. Resources with beneficial impacts are denoted by an asterisk, and alternatives within those resource rows with beneficial impacts are denoted by hatched cells and an asterisk. As presented in the Executive Summary, where many readers may begin and end their inquiry, the DEIS tends to obscure the beneficial impacts of proposed alternatives (simply denoting them with an Asterix or crosshatching within the color-coded system for identifying adverse impacts) while visually highlighting the overall adverse impacts of proposed alternatives through the color-coding system. Within the body of the DEIS itself, the potential benefits of particular alternatives relative to the proposed action are also difficult to parse as presented in the tables. This is compounded by combining the analysis for several different alternatives into one common analysis. For example, the alternatives analysis regarding impacts to marine mammals treats alternatives “C” through “F” as functional equivalents, presumably because each reflects a reduction in the number of wind turbines, despite the fact that the number of turbines estimated under each scenario varies wildly.12 Alternative “D” (Transit Alternatives)	Thank you for the comment. Beneficial project impacts have been highlighted throughout the Chapter 3 resource analyses, in Chapter 2 Table 2.3-1 Summary and Comparison of Impacts by Alternative, and in Executive Summary Table ES-2.

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		contemplates as many as 93 turbines (only 7 fewer than the Proposed Action), while alternative 'F" (Higher Capacity Turbines) considers a buildout of 56 turbines (almost 50% fewer than the Proposed Action). Clearly the differential impact of removing a handful of turbines versus reducing the overall project size by almost half is significant. Yet, such differential impacts are absent from the analysis. We would encourage BOEM in the Final Environmental Impact Statement (FEIS) to highlight the details of those specific alternatives which yield benefits and/or reduced environmental impacts relative the Proposed Action, while fulfilling the purpose and need of the project. We encourage BOEM to careful analyze how the elements of those alternatives which yield such benefits might be combined to yield multiple benefits across several different environmental impact categories.	
BOEM-2022-0045-0114	4	The organization and format of the DEIS, appears to closely follow the earlier DEIS's as well as the extensive cumulative impact analysis developed by BOEM as a supplemental EIS in the lengthy Vineyard Wind 1 review process. This includes nearly 20 individual environmental and socioeconomic factors, each examined for "Alternative Impacts" and "Alternatives Combined with Other Foreseeable Impacts" for the No Action Alternative, the Project as Proposed as well as three specific options (reductions in the number of WTG locations in the interest of reducing potential marine habitat impacts, potentially improving marine transit and potentially reducing visual impacts), as well as a possible 14MW WTG option. This organization, while arguably thorough, results in a repetitive and rather tedious text. While there are locational and project specific factors which may need to be addressed, it would seem that the level of detail could be reduced in many instances via reliance on findings of negligible to minor impacts in prior analysis (VW cumulative, VW DEIS, Southfork DEIS, Ocean Wind DEIS, etc).	BOEM developed the tables in Appendix E for each resource category based on the 2019 study titled *National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf* (BOEM 2019). Tables E1-1 to E2-21 provide an analysis of the relevant ongoing and future non–offshore wind activities by IPF for each resource, as well as a reference to where each of those IPFs is analyzed in relation to future offshore wind activities and the Proposed Action and alternatives, if applicable. As suggested in this comment, and consistent with Section 1502.15 of the CEQ NEPA implementing regulations, IPFs either not applicable to the resource area or were determined by BOEM to have a negligible effect were excluded from analysis in the body of the EIS and retained in Appendix E1. IPFs that result in a minor (or less) impact were retained in Appendix E2.
BOEM-2022-0045-0065	4	BOEM's NEPA process is insufficient for project review and development of effective mitigation measures, especially with regard to cumulative impacts of regional development.	Thank you for the comment. BOEM has worked with and will continue to work with cooperating agencies to develop mitigation measures appropriate for this project and all ongoing and future OSW projects.
BOEM-2022-0045-0103	5	EPA is concerned that the DEIS generalizes project impacts through the use of broad, general metrics to compare impacts across alternatives (negligible, minor, moderate or major impacts). The broad metrics often result in differing alternatives being characterized as having similar (e.g., "moderate") impacts. Table 2.3-1 (Comparison of Impacts by Alternative) demonstrates this outcome as throughout the entire table, all impacts for all build alternatives are presented as being identical, despite there being demonstrable differences in the scale of the alternatives and the related impacts across the alternatives. Differences in impacts exist, however, as reflected by the fact that the habitat alternatives are specifically designed to result in less damage to identified critical resources. Recommendation: The NEPA analysis would benefit from less focus on the presentation of generalized impacts and more on the clear tradeoffs between alternatives as measured by impacts. Such an approach would provide greater emphasis on the design, for example, of Habitat Alternatives (C1 and C2) to result in lowered impacts to benthic, finfish and EFH habitats. The Habitat Alternatives are specifically designed to reduce impacts by reducing the number of WTGs and locating the reduced number of WTGs and their associated inter-array cables, scour protection and other project infrastructure away from areas containing important complex bottom habitat. According to the DEIS, reducing the number of WTGs and associated cable and other infrastructure reduces associated areas of seafloor disturbance for Alternative F in conjunction with Alternatives C, D, and E by up to 43%, 29.5%, and 51%, respectively. These impacts are not similar and highlight the benefits of a more refined presentation of impacts in the analysis. Other examples provided throughout the DEIS show meaningful differences between proposed action alternative B and habitat alternatives C1 and C2 for overall construction disturbance footprint, seafloor preparation footprint, monopile and scour protection areal impacts, maximum seafloor foundation footprint and maximum cable protection footprint. We recommend that BOEM work to expand upon the discussion of the differences in impact across alternatives rather than focus on categorizing the impacts with broad metrics. These changes will benefit both the NEPA process and BOEM decision-making regarding alternatives.	Sections 1.6 and 3.0 of the EIS explain the impact analysis approach, and additional clarification was added to Table 2.3-1 and Table ES-2 to more clearly distinguish between impacts of each action alternative. The impacts of each alternative align with the appropriate impact level as defined in Section 3.3 and are supported by the analysis. BOEM acknowledges the importance of describing nuanced differences among alternatives, particularly when those differences are not determined to change the overall impact determinations. The analysis has been updated throughout Chapter 3 in an effort to better highlight the differences in impacts between alternatives, including when combined with Alternative F. The minimization of impacts is identified and quantified where possible in the Final EIS.
BOEM-2022-0045-0078	5	Net Positive Impact on Biodiversity A number of offshore wind companies have self-imposed organizational ambitions with respect to protecting biodiversity and related conservation efforts. In particular, several companies have established Net Positive Impact on Biodiversity goals to be achieved by specific dates within all respective project footprints. These ambitions should be recognized and, if not rewarded, then at the very least not penalized by the various permitting and approval processes. For this reason, TNC believes that it	The EIS evaluates and considers both the potential adverse and beneficial impacts from the proposed project. Any measures or proposed project design elements included as part of the COP are included in BOEM's evaluation of the proposed action and other action alternatives. Consideration of broader organizational efforts by the project proponent are

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		would be extremely beneficial to have a point in the environmental review process at which the developer could present and BOEM and stakeholders could evaluate and comment on the methodologies being used to assess the need for offsets after application of the mitigation hierarchy and ultimately success (i.e., net positive impact on biodiversity). One possible point in the timeline to begin evaluating these goals and the effect of the project's approach on the overall project impact is within the alternatives analyses at the DEIS stage.	considered in the context of cumulative activities, however, are not considered part of the proposed action.
BOEM-2022-0045-0103	6	In another representative instance the DEIS (Section 3.6.2.4) notes the discrepancy between the comparison and assessment of impacts based on broad general criteria (negligible, minor, moderate, major) and more appropriately scaled metrics: "While Alternatives C through F would noticeably reduce the extent of adverse impacts to benthic habitat relative to the Proposed Action, the general scale, nature, and duration of impacts are broadly comparable to those described for the Proposed Action and would therefore be minor adverse, applying the impact criteria defined in Section 3.3, Table 3.3-2. However, these criteria do not fully capture the benefits of avoiding long-term impacts to specific habitat types. For example, Alternative C emphasizes avoiding and minimizing impacts to complex benthic habitat and reducing the overall impact footprint. This alternative would reduce benthic habitat impacts from 6,615 acres to 4,374 to 4,440 acres, depending on the configuration selected. Impacts to large-grained complex and complex benthic habitat would decrease from an estimated 2,057 acres to 1,443 to 1,469 acres, depending on configuration. Impacts to these habitat types would be long term to permanent in duration." Recommendation: The degree to which BOEM will rely on the assessments of impacts based on more specific information, as opposed to assessments based on general impact criteria, remains unclear and should be clarified in the FEIS. As Alternatives C1 and C2 appear to meaningfully reduce project impacts (with larger reductions when paired with Alternative F), it will be important for the FEIS to fully explain the decision-making rationale should a more damaging alternative be selected.	The impacts of each alternative align with the appropriate impact level as defined in Section 3.3 and are supported by the analysis. BOEM acknowledges the importance of describing nuanced differences among alternatives, particularly when those differences are not determined to change the overall impact determinations. The analysis has been updated throughout Ch 3 in an effort to better highlight the differences in impacts between alternatives, including when combined with Alternative F. The minimization of impacts is identified and quantified where possible in the Final EIS. The ROD will summarize the decision making rationale for the preferred alternative.
BOEM-2022-0045-0103	7	The DEIS includes general conclusions that impacts are offset by benefits is repeated in several locations in the document (for example see 3.6.2.4.3 Conclusions, page 3.6-61). The DEIS states that "while the overall extent of offshore impacts to benthic habitat would be reduced under Alternatives C through F relative to the Proposed Action, the overall level of impact would be the same." As noted above, impacts of the various alternatives are not the same. For example, as noted above, both C Alternatives result in substantially less project level impacts than the proposed action. This characterization of the various types of impacts of alternatives as being reduced but similar to the impacts of the proposed action is repeated throughout the document. Recommendation: We recommend that more detailed analysis be provided to support the statement that impacts are offset by benefits, to demonstrate more precisely how impacts are offset by benefits, and to specify the degree to which impacts are offset by benefits (e.g., partially offset, fully offset, etc.).	The impacts of each alternative align with the appropriate impact level as defined in Section 3.3 and are supported by the analysis. BOEM acknowledges the importance of describing nuanced differences among alternatives, particularly when those differences are not determined to change the overall impact determinations. The analysis has been updated throughout Ch 3 in an effort to better highlight the differences in impacts between alternatives, including when combined with Alternative F. The minimization of impacts is identified and quantified where possible in the Final EIS. The ROD will summarize the decision making rationale for the preferred alternative.
BOEM-2022-0045-0103	8	Table E 4-1 provides helpful comparisons of impact estimates, but in several key areas the estimates provided are the same for the proposed action and all alternatives. This is based on a footnote which indicates that the project design has not occurred for Alternatives C through F and information is therefore not available. While all are maximum case scenarios, the maximum case scenario for the alternatives with reduced infrastructure and associated impacts should not be represented as having the exact same maximum case impact as the proposed action alternative. No complete comparison of impacts of various alternatives is possible unless the actual impacts from each alternative are factually and accurately presented. Recommendation: We recommend that BOEM perform the work necessary to more fully populate this table with comparative estimates. Rather than include overestimates of the impacts of various alternatives often equivalent to the impacts of the proposed action, the table should instead include more realistic estimates of the reduced impacts that will result from alternatives, especially for those alternatives specifically designed to reduce impacts (Alternatives C-F). As noted above, these reductions are not "slight," but can be in the range of 25% - 35% or more depending on the impact type. Accurate representation of the impacts resulting from various alternatives is critical for meaningful assessment and comparison of alternatives and BOEM decision-making to follow.	Sections 1.6 and 3.1 of the EIS explain the impact analysis approach, and additional clarification was added to Table 2.3-1 and Table ES-2 to more clearly distinguish between impacts of each action alternative. The impacts of each alternative align with the appropriate impact level as defined in Section 3.3 and are supported by the analysis. The analysis has been updated throughout Ch 3 in an effort to better highlight the differences in impacts between alternatives. Table E 4-1 has been updated with the information available as of 12/20/22 and text has been highlighted to indicate changes from the DEIS to the FEIS.
BOEM-2022-0045-0065	8	The following topics must be fully analyzed and clearly presented in the Revolution Wind EIS: a. Energy production, trade-offs, and alternative sources; b. Project cost and economic impacts, including to low income and environmental justice communities; c. Greenhouse gas/climate benefits and impacts; d. Supply chain impacts; e. Jobs, including demographics and gender; f. Extreme weather effects; g. Icing; h. Decommissioning; and i. Project schedule and details.	Thank you for your comment. These topics have been discussed and analyzed in the EIS.

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BOEM-2022-0045-0110	10	Despite offshore wind's rapid growth in Europe, United States offshore wind remains a new industry, with the nation's first commercial project – the Block Island Wind Farm (30 MW) – only coming online in December 2016. BOEM has issued a Record of Decision approving a major project to the east of this project – Vineyard Wind 1 Offshore Wind Energy Project (Vineyard Wind 1) – and has also approved a project that would be surrounded on three sides by Revolution Wind – the South Fork Wind Farm and South Fork Export Cable Project (South Fork or SFWF). Commenters have provided ample comments on those projects which should provide guidance for this NEPA process as well.	Thank you for the comment. BOEM has incorporated information and analyses from the referenced NEPA documents, including consideration of the issues raised during those NEPA reviews, as appropriate.
BOEM-2022-0045-0071	10	It is important to conduct NEPA impacts analysis based on specific turbine sizes considered under each alternative. There are tradeoffs inherent in the selection of larger or smaller turbines. For example, larger turbines will require larger impact hammers during installation, but the use of larger turbines will allow for fewer locations overall.	Thank you for the comment. As described in Chapter 2, the EIS analysis is based on a Project Design Envelope (PDE) approach. In Chapter 3, the resource areas address the maximum-case-scenario which includes the largest dimensions of each project component. Project components, design parameters, and their dimensions, are presented in Appendix D of the EIS.
BOEM-2022-0045-0110	12	Various potential impacts associated with offshore wind construction and operations could directly, indirectly, and cumulatively impact marine species and habitats in the coastal zone and offshore environment along the coast. In addition to a thorough examination of direct and indirect impacts, as well as mitigation measures, assessing cumulative impacts is essential to understanding the impact of offshore wind on species and ecosystems along the coast.	Thank you for the comment. As explained in Sections 3.1-3.4, the EIS analyzes direct and indirect effects from the proposed action and alternatives in the context of the existing baseline as well as when combined with reasonably foreseeable activities (cumulative impacts).
BOEM-2022-0045-0100	13	Missing Analyses: There continue to be important analyses and conclusions that are absent from the DEIS, many of which were identified in our PDEIS review. For example, while the document indicates there will be unexploded ordnance (UXO) removal and/or detonation (at least 13 in total), there is no information related to where these may occur or during what time of year; yet impact conclusions suggest effects will be minimal, with little supporting analysis. As noted in our PDEIS comments, there are missing IPFs considered for ESA-listed finfish and sea turtle species, including fisheries surveys and vessel traffic. These activities can result in injury and mortality of protected species and the absence of these analyses is a critical omission that should be resolved in the FEIS. The document is also missing an analysis of impacts from nighttime pile driving, despite it being a component of the proposed action. The DEIS also does not include social impact evaluations (non-market impacts) or estimate overall economic impacts to shoreside support services and fishing communities due to potential changes in fisheries operations, the latter of which is necessary to comprehensively evaluate potential compensation needs for this project. All anticipated changes to the marine environment and fishing communities from the Revolution Wind project and other projects should be explicitly discussed and the potential impacts examined in the FEIS.	EIS Section 3.13 and 3.19 describe impacts from IPFs likely to have biologically significant effects on ESA listed finfish and sea turtles. IPFs having insignificant or discountable effects are addressed in EIS Appendix E.
BOEM-2022-0045-0110	14	The Revolution Wind Final EIS should not use value-laden terms (e.g., "beneficial") to describe changes in ecosystems or species. It should instead be objectively described as ecosystem change. While we agree that some offshore wind activities may result in a change in the ecosystem and, in some cases, an increase in the abundance of certain species or in overall diversity, we caution against representing these changes as "beneficial." This is especially the case because it is unclear what implications these changes may have on the wider ecosystem. We recommend that the Revolution Wind Final EIS remain objective in language used in its impact analysis (e.g., by using terminology such as "increase," "decrease," and "change").	Sections 1.6 and 3.0 of the EIS explain the impact analysis approach, and Table 3.3-3 defines what constitutes beneficial impacts for each resource category. The impacts of each alternative align with the appropriate impact level as defined in Section 3.4 and are supported by the analysis and where appropriate, the analysis acknowledges that potential beneficial impacts would depend on how habitat and species changes influence the broader biological community.
BOEM-2022-0045-0100	14	Geographic Analysis Area: As noted above, the analysis is complicated by the geographic analysis areas that vary by resource. While additional text and rationale were provided since we raised this concern in the PDEIS, it is still unclear how or why these geographic areas were selected. For example, the area of analysis for marine mammals covers the entire range, including into Canada; however, there is no indication that vessel traffic is originating in Canada. In addition, impacts to benthic resources appear to be limited within the lease area; yet extensive areas outside the lease area (in an attempt to connect survey locations) are included in the analysis area. This creates confusion and skews the analysis, as the geographic analysis areas do not appear connected to the IPFs. The geographic scope of potential project effects may vary depending on the IPFs and the presence of resources being impacted by those IPFs. This should be reflected in the analysis so impacts of the proposed action and each alternative can be accurately evaluated and clearly understood.	The geographic analysis area is defined by the anticipated geographic extent of impacts for each resource. For the mobile resources—bats, birds, finfish, and invertebrates; marine mammals; and sea turtles—the species potentially affected are those that occur within the area of impact of the Proposed Action. The geographic analysis area for these mobile resources is the general range of the species that could traverse the project footprint. The purpose is to capture the cumulative impacts on each of those resources, and the entire populations that could be affected by the Proposed Action as well as the impacts that would still occur under the No Action Alternative. Impacts from both the proposed action IPFs and from cumulative activities are evaluated using the significance criteria defined in Section 3.3, which consider the potential for population-level impacts. Where applicable, the EIS discloses localized impacts (e.g., to Cox's Ledge) from IPFs, however, those impacts are also evaluated in the context of the broader resource extent within the GAA.
BOEM-2022-0045-0113	14	Environmental protection is a key requirement under the OCSLA and rigorous plans must be in place for offshore wind projects to comply with various state and federal statutes that projects are subject to. To achieve all necessary permits, offshore wind	Thank you for your comment. After consideration of the public comments on the DEIS and analysis of those comments and other information (including the adverse and beneficial

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		energy must be developed in an environmentally responsible manner that avoids, minimizes and mitigates impacts to marine life and ocean users, meaningfully engages stakeholders from the start, and uses the best available science and data to ensure science-based and stakeholder-informed decision making. This includes analysis of cumulative impacts and adaptive management strategies, obtaining all necessary and relevant data, and requires BOEM to identify all methodologies, and indicate when information is incomplete or unavailable, acknowledge scientific disagreement and data gaps, and evaluate intermediate adverse impacts based on approaches or methods generally accepted in the scientific community. Avoiding sensitive habitat areas, requiring strong measures to protect wildlife throughout each state of the development process, and comprehensive monitoring of wildlife and habitat before, during, and after construction, are all essential for the responsible development of offshore wind energy. The project alternative should be chosen that ensures the environment and wildlife are protected while maximizing the creation of quality, high-paying jobs and economic benefits.	impacts of each alternative), BOEM has identified a preferred alternative in Section 2.1.7 of the Final EIS. BOEM's selected alternative, along with any additional mitigation measures required by BOEM, will be disclosed in the Record of Decision.
BOEM-2022-0045-0103	24	EPA supports the various calls in the DEIS for additional study/research covering a number of issues (including but not limited to the determination of cumulative effects on invertebrates, the formation of large-scale reefs, the effects of operational noise on Atlantic Cod). Recommendation: We recommend that the FEIS provide specific detail regarding the schedule for this research and the responsible parties for the work. We also recommend that the FEIS explain how issues warranting further study will be addressed for the Revolution Wind project. For example, the DEIS accurately notes that the significance of the effects of operational noise on Atlantic Cod is unknown. An explanation of how this issue will be considered in the decision-making process absent this information would be useful.	As outlined in the EIS, BOEM has ongoing research to better understand the potential effects of OSW infrastructure to fish patterns and movement in the New England area (see https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Exploring%20the%20Connectivity%20Among%20Offshore%20Wind%20Turbines.pdf and https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Movement-Patterns-of-Fish-in-Southern-New-England_0.pdf). These ongoing studies will further refine the rich research already completed to understand behavior and response of Atlantic cod and other species. Links to BOEM's completed renewable energy studies can be found here: https://www.boem.gov/environment/environmental-studies/renewable-energy-research. Ongoing and planned research can be found here: https://www.boem.gov/environment/environmental-studies/environmental-studies-planning. The Tethys Knowledge Database (https://tethys.pnnl.gov/) also provides an extensive list of research conducted to date. Relevant studies have been incorporated into the EIS analysis. Appendix C of the EIS evaluates incomplete and unavailable information pertaining to benthic habitat, invertebrates, finfish, and EFH. As described in Section 3.6, Section 3.13, and Appendix C of the EIS, BOEM is able to draw on existing scientific findings and references for characterizing the likely effects of each IPF and analyzing potential impacts resulting from the proposed Project and past, present, and reasonably foreseeable actions. For the reasons described in Section 3.6, Section 3.13, and Appendix C of the EIS, BOEM concludes that the available information about potential impacts to benthic habitat, invertebrates, finfish, and EFH adequately supports a reasoned choice among alternatives. Furthermore, Appendix F outlines the applicant proposed EPMs and additional mitigation measures being considered by BOEM, many of which include monitoring and reporting requirements. These, as well as additional measures from ongoing consultation and coordination, could be included as part of the Record of Decision or as terms and conditions of COP approval.
BOEM-2022-0045-0100	26	Several of the general impact descriptions used are somewhat vague or unclear, e.g. "most adverse impacts..." Throughout the document, additional resource-specific impact descriptions are also not provided (for example, see previous NMFS comments on marine mammal criteria). Impact definitions also rely heavily on mitigation. All of these factors make it more difficult to assess impact conclusions for some resources. Please see additional comments on impact analysis in the attached letter.	Thank you for the comment. As a clarification of terms, Environmental Protection Measures (EPMs) are identified in the COP and listed in EIS Appendix F, Table F-1, and are a component of the Proposed Action, and shall be implemented by the applicant. Therefore, EPMs are included in the Chapter 3 analysis of direct and indirect impacts and cumulative impacts. Mitigation measures as identified in EIS Appendix F, Table F-2 and Table F-3, are proposed *additional* measures that may be applied by BOEM as a requirement for COP approval and are not considered components of the Proposed Action. The Mitigation section within each resource area of Chapter 3 addresses the potential reduction of the impact determination after the proposed *additional* mitigation measures are applied.

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BOEM-2022-0045-0086	28	The DEIS should state that the Proposed Action does not increase the occurrence of climate change nor its degree of impact. Rather, in Section 3.11 and throughout the document, as was done in the Vineyard Wind 1 FEIS, climate change should be discussed as a "trend" in terms of how it will change the resource components of the proposed actions affected environment over the useful life of the project. See the Council on Environmental Quality (CEQ)'s Section 1502.15, Affected Environment, which states, "The environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration, including the reasonably foreseeable environmental trends and planned actions in the area(s)".	Thank you for the comment. Edits have been made to Section 3.11 to clarify that the "major" impacts from climate change are driven by cumulative activities and trends and not by emissions from the proposed project. EIS Section 3.4 outlines the Project's anticipated GHG emissions and potential impact with respect to climate change. As discussed in EIS Section 3.4, the Project is expected to have an overall net beneficial contribution to slowing the impacts from climate change through reduced GHG emissions when compared to generation of the same amount of energy using fossil fuel or coal sources.
BOEM-2022-0045-0086	59	The DEIS contains many general cross-references to the appendices, but without summarizing what specific content in the referenced appendix is relevant to the consequence being analyzed. Although the goal of incorporation by reference is to cut down on bulk, the CEQ regulations in Section 1501.12 require that when agencies reference the incorporated material, they need to "briefly describe its content" in order to accommodate public review. We recommend that in instances in the DEIS where it is unclear what and why an appendix is being referenced in the consequence section, a brief clarification be included in the FEIS.	Thank you for the comment. Incorporation by reference is applicable to unrelated documents, not to other components of the same document. Clarifications of section numbers, table numbers, and figure numbers have been made as appropriate.
BOEM-2022-0045-0086	62	As required by CEQ's NEPA implementation regulations in Section 1502.16(a)(2), an EIS should include a discussion entitled, "Any adverse environmental effects that cannot be avoided should the proposal be implemented." We recommend that this summary discussion be included in the FEIS.	Thank you for the comment. Appendix I of the EIS addresses unavoidable adverse impacts of the proposed action and the irreversible and irretrievable commitment of resources related to the proposed action.

NEPA Process

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BOEM-2022-0045-0122	1	I also appreciate BOEM providing Aquinnah residents an extension of time beyond October 17, 2022, to the end of October to provide comments due to the short notice provided to Aquinnah and its residents about the October 4, 2022 1 Public Hearing and the October 17, 2022 comment deadline. Aquinnah, the jurisdiction most affected by the RWF, is already at a disadvantage because of the very small size of the town, and the limited number of residents compared to other competing, governmental, environmental, and business stakeholders. The lack of notice suppressed resident participation, further disadvantaging Aquinnah residents and therefore this extension was necessary. Footnote 1: The BOEM personnel attending the October 4, 2022, Public Hearing were very knowledgeable and helpful. Unfortunately, the public did not have the full opportunity to benefit from the BOEM personnel because of the late notice and the fact that the residents were not told ahead of time to show up prior to the Public Hearing's scheduled time because the BOEM personnel would be available prior to the meeting to answer questions.	Thank you for the comment. BOEM published advance notice of five public hearing dates, times, and locations and the due date for receipt of comments in the Federal Register Notice of Availability and request for comments on the Draft Environmental Impact Statement for the Revolution Wind Farm on September 2, 2022 (87 FR 54248, pages 5428-54250, agency docket no. BOEM-2022-0045, document number 2022-18915). Two of the five public hearings were virtual meetings held to allow for participation by stakeholders that were unable to attend in-person and provided recordings on their BOEM project website. BOEM also published advance notice of five public hearing dates, times, and locations and the due date for receipt of comments in six newspapers located throughout the project area, including two in Connecticut, two in Massachusetts, and two in Rhode Island. Each newspaper ran the notification once a week for two weeks in advance of the first public hearing. BOEM also published press releases notifying 14 print news media outlets in Rhode Island and 8 in Massachusetts, as well as social media announcements.
BOEM-2022-0045-0101	3	The DEIS contains no specific language regarding how whales respond to hammering on the ocean floor. Project proponents have responded to this concern by referencing whale studies conducted in Europe; however, ocean conditions and marine species are different there. The MPTN continues to suggest that a slower approval process would allow time for the development of a project or two while additional studies are conducted. We ask that this be seriously considered.	BOEM's EIS complies with the procedural requirements of NEPA. The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS. Appendix C describes the incomplete or unavailable information for marine mammals and acoustic impacts associated with pile driving is included in the Final EIS. BOEM is in consultation with NMFS for Threatened and Endangered Species and the Marine Mammal Protection Act and compliance with the laws will be achieved before approval of the Revolution Wind project.
BOEM-2022-0045-0101	36	• Revise the timeframes for the Project and all proposed offshore wind energy projects in the northeast. Allow more time for proper study of the marine environment and species.	BOEM's EIS complies with the procedural requirements of NEPA. The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS. Appendix C describes the incomplete or unavailable information for marine mammals and acoustic impacts associated with pile driving is included in the Final EIS. BOEM is in consultation with NMFS for Threatened and Endangered Species and the Marine Mammal Protection Act and compliance with the laws will be achieved before approval of the Revolution Wind project. this
BOEM-2022-0045-0101	37	• Enlist the participation of the Federal Permitting Improvement Steering Committee (FPISC), which the tribes believe (1) understand tribal concerns and (2) will improve the entire process.	BOEM's EIS complies with the procedural requirements of NEPA. Revolution Wind is a Fast-41 project in which coordination with FPISC is required and ongoing.
BOEM-2022-0045-0102	38	MWT THPO Comments and Concerns · The government keeps changing its feedback solicitation processes from project to project, which stresses the tribes unnecessarily in terms of workload and places what amounts to an unfunded mandate on the MWT THPO. · Tribes do not receive sufficient funding from the federal government to articulate concerns in a timely fashion—input from multiple areas of expertise are necessary but not occurring because of a lack of funding and organization that the MWT perceives as intentional. Additionally, the MWT THPO has only one person to review and comment on multiple projects simultaneously. · BOEM requesting that tribes submit comments through their website portal is redundant—especially considering that the NEPA/Section 106 process exists to capture concerns—and places an unnecessary administrative burden on the THPO.	An analysis of a proposed action's potential effect on Tribal lands, resources, or areas of historic significance, and meaningful coordination with Tribal entities, is an important part of BOEM's decision making process. Sections 1501.2 and 1501.7 of the CEQ's NEPA regulations call for the involvement of Tribes that may be affected by a Federal proposal. BOEM uses Regulations.gov as the preferred mechanism for receiving public comments on DEISs under NEPA, however, it was not the only method. BOEM has also received and accepted comments from MWT and other Tribal Nations through other mechanisms including email or hard copy through both the Section 106 and NEPA processes. BOEM also successfully funded and completed the Pilot Revolution Wind Tribal Support project to provide technical expertise and assistance to Tribal nations in the review of the Revolution Wind project documents, including the COP, supporting technical materials, and the DEIS. Through this contract and ongoing government-to-government and Section 106 consultation, BOEM has received productive feedback on the DEIS from MWT and other Tribal nations. BOEM will continue to coordinate and engage with the MWT.

No Action Alternative

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BOEM-2022-0045-0103	1	Based on our review we continue to encourage BOEM to refine the presentation and framing of the No Action alternative. Our previously expressed comments on this topic for Revolution Wind and other projects under development have focused in part on the nexus developed in the cooperating agency DEIS between the No Action and the analysis of cumulative impacts. We fully support the presentation of a cumulative impact analysis in the EIS that considers as one scenario the cumulative effects (positive and negative) on the environment of a full build (high benefit/impact) scenario for all lease areas. Recommendation: We recommend that the consideration of project impacts as compared to the no action would be more valuable with a less broad framing of the No Action. Such a framing would avoid the tendency to dilute the significance of impacts attributed to the alternatives resulting from comparison of the action alternatives to a future full lease development (the cumulative impact scenario). This change will likely increase the value of the analysis as a tool to disclose impact differences among alternatives and support associated BOEM decision-making.	The impacts of each alternative are analyzed in relation to the current baseline, which only includes those offshore wind projects constructed or in which construction is actively underway. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline, which includes future offshore wind projects in which a commercial lease has been issued and a COP has been submitted to BOEM for review. Impact-levels are defined in each resource section, and conclusions drawn for each alternative align with the respective impact level. The analysis of the No Action Alternative has been reorganized to provide better clarity and impact-level conclusions for the No Action have been reviewed and revised in the Final EIS.
BOEM-2022-0045-0100	2	Consistent with comments we provided on other recent offshore wind project EISs, we remain concerned with the approach to the alternatives analysis, including the No Action Alternative. Specifically, this approach leads to an incomplete description and analysis of impacts on NOAA trust resources from activities and trends in the baseline, as well as from the proposed action and alternatives. This approach skews the impacts analysis by minimizing and diluting the direct and indirect effects of the proposed action and action alternatives, by reducing the distinction in impacts among alternatives such that there is no material difference, and by conflating the cumulative impacts analysis with impacts considered in the No Action Alternative. As a result, the evaluation of cumulative impacts does not reflect the true scale of regional wind development; rather, it suggests that cumulative impacts will be similar to the direct and indirect impacts of the proposed action. We continue to recommend that BOEM evaluate a “No Action” scenario that does not include all future planned wind and non-wind activities. We understand and appreciate that you are in the process of updating the structure of your EIS documents and we recommend that you continue to work with us on this issue. We consider this to be a critical issue to resolve, as ultimately we will need to independently evaluate the structure and content of BOEM’s EIS to determine whether we will be able to adopt the BOEM NEPA document or develop our own to support our MMPA authorization decision.	BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific Environmental Consequences section in Chapter 3 of this Final EIS. The impacts of each alternative are analyzed in relation to the current baseline, which only includes those offshore wind projects constructed or in which construction is actively underway. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline, which includes future offshore wind projects in which a commercial lease has been issued and a COP has been submitted to BOEM for review. Impact levels are defined in each resource section, and conclusions drawn for each alternative align with the respective impact level. The analysis of the No Action Alternative has been updated to better describe impacts of the No Action in relation to the existing baseline and in relation to cumulative activities. Impact-level conclusions for the No Action Alternative have been reviewed and revised in the Final EIS as appropriate.
BOEM-2022-0045-0069	2	As presented, it seems the ‘No Action’ Alternative assumes a scenario where this project does not move forward, but that all others would. This scenario seems unrealistic, and can distort one’s interpretation of potential impacts from this project. As a result, such a scenario may imply that the impacts could be negligible, which would not be accurate.	BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific Environmental Consequences section in Chapter 3 of this Final EIS. The impacts of each alternative are analyzed in relation to the current baseline, which only includes those offshore wind projects constructed or in which construction is actively underway. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline, which includes future offshore wind projects in which a commercial lease has been issued and a COP has been submitted to BOEM for review. Impact-levels are defined in each resource section, and conclusions drawn for each alternative align with the respective impact level. The analysis of the No Action Alternative has been updated to better describe impacts of the No Action in relation to the existing baseline and in relation to cumulative activities. Impact-level conclusions for the No Action have been reviewed and revised in the Final EIS as appropriate.
BOEM-2022-0045-0059	3	This alternative confuses a true NEPA No Action with a Cumulative Impacts Analysis, also required by NEPA. BOEM cannot legally conflate the two, as it affects the analysis results. The No Action alternative, in a true NEPA sense, would analyze a disapproval of the Revolution Wind project, and include only projects that BOEM has already approved (i.e. Vineyard Wind and South Fork Wind Farm). A Cumulative Impacts Analysis would include all future foreseeable projects- which would include additional wind farms in all currently leased BOEM areas, as well as the potential for new leases in the Central Atlantic Call Area. However, the DEIS uses the No Action Alternative for its Cumulative Impacts Assessment, despite the fact that the two are not the same. The DEIS states, “The No Action Alternative cumulative effects assessment provides an assessment for impacts with and without approval of additional wind farms in BOEM lease areas. Through these assessments, the No Action Alternative	As disclosed in the EIS, BOEM anticipates impacts from the Proposed Action alone to be long term and up to moderate adverse. In the context of cumulative activities, the overall impacts to navigation were concluded to be up to moderate adverse. The impacts of each alternative are analyzed in relation to the current baseline, which only includes those offshore wind projects constructed or in which construction is actively underway. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline, which includes future offshore wind projects in which a commercial lease has been issued and a COP has been submitted to BOEM for review. Impact-levels are defined in each resource section, and conclusions drawn for each alternative align with the respective impact level. Planned offshore wind projects are considered reasonably foreseeable activities, i.e., planned actions that could occur during the life of the

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		provides a baseline against which all action alternatives are evaluated." 9 This conflation of a true NEPA No Action Alternative and a true NEPA Cumulative Impacts Analysis only serves to downgrade the impacts from the project. If BOEM were to conduct a true No Action Alternative, it would analyze the current state of two approved projects, with no other approved projects in the ocean. Comparing the action alternatives against this background would show a significant impact, because compared to the two existing approved projects the approval of Revolution Wind would increase the number of turbines in the ocean substantially. However, if BOEM conflates the No Action Alternative with the Cumulative Impacts Analysis and compares approval of the Revolution Wind project against the potential for thousands of turbines in the additional 25/26 other BOEM leases, plus the potential for more in the Central Atlantic Call Area, the addition or subtraction of the Revolution Wind turbines appears more insignificant. For example, BOEM states that under the No Action Alternative, 3,008 WTGs and OSS foundations would exist in the analysis area.10 This makes the 100 WTGs of the Proposed Action seem negligible. However, 100 turbines compared to the up to 15 turbines of the South Fork Wind Farm and up to 84 turbines of the Vineyard Wind project,11 the Revolution Wind project would in fact double the number of turbines in the water. Similarly, on the October 11, 2022 BOEM virtual public hearing webinar for Revolution Wind, BOEM personnel stated that impacts to navigation were the same with or without the Proposed Action. This is simply not true but is the illusion created by conflating a No Action alternative with a Cumulative Impacts Analysis. One hundred WTGs in the middle of heavily transited and fished area will certainly have a major navigational impact. See charts below for examples of fishing and transit activity presented by NOAA Fisheries to BOEM, developers and others at the Dec. 3, 2018 RODA transit lane workshop:12 (4 images attached to NOTES column in this row) Navigation necessary for the above activity will undoubtedly be impacted by the Proposed Action. If the 100 WTGs of the Proposed Action did not exist, the depicted fishing and transit activity in the project area could continue to occur unobstructed. By installing 100 WTGs directly in the path of the depicted transit and fishing activity, much if not all of the activity will become unsafe or inoperable in the WTG area. The cumulative impact of adjacent and surrounding projects will be tremendous and further complicate and bar safe navigation. In reality, the presence or lack of fixed structure in the Revolution Wind project area will make a big difference to navigation. BOEM cannot pass the red face test if it contends that the Proposed Action will have the same impact on navigation whether or not it is built. That is a ludicrous position. However, if BOEM couches the No Action Alternative in a Cumulative Impacts Analysis to contend that there is no measurable difference between 3,008 turbines and 3,108 turbines, then it has downplayed impacts based on a technicality that is a misrepresentation of the intent and requirement of NEPA. BOEM cannot conflate the No Action Alternative with the Cumulative Impacts Analysis. NEPA requires transparent, clear cut, and complete analysis for both. We request that BOEM separate the two and conduct a full and appropriate NEPA analysis under each. Footnote 9: DEIS, p. 2-4. Footnote 10: DEIS, p. 3.9-40. Footnote 11: See https://www.boem.gov/renewable-energy/state-activities/record-decision-south-fork and https://www.boem.gov/renewable-energy/state-activities/final-record-decision-vineyard-wind-1. Footnote 12: See presentation here: https://rodafisheries.org/wp-content/uploads/2019/08/20181203_TransitCorridorWorkshop_VMSandAISdata.pdf and meeting documents here: https://rodafisheries.org/portfolio/december-3-2018-workshop-documents/. Presentation also attached.	Revolution Wind Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix E (Planned Activities Scenario) describes the methodology used for assessing impacts from planned activities in the EIS. Using the methodology described in Appendix E, each resource-specific Environmental Consequences section in Chapter 3 of this Draft EIS discusses cumulative impacts. Finally, the analysis of the No Action Alternative has been reorganized to provide better clarity and impact-level conclusions for the No Action have been reviewed and revised in the Final EIS.
BOEM-2022-0045-0100	21	NMFS understands agencies are currently working together to address this comment. Similar to the Ocean Wind DEIS and Revolution Wind DEIS, the No Action alternative presumes the full approval of all foreseeable wind development projects with the exception of the proposed action, enabling the PDEIS to diminish the intensity of the project's impacts within a context where all other potential projects are assumed to have been approved. Essentially, the No Action Alternative conflates the description of the baseline with a cumulative effects analysis. Importantly, this minimizes the impacts of the proposed action and action alternatives because they are compared to the No Action Alternative with a significantly inflated baseline.	The impacts of each alternative are analyzed in relation to the current baseline, which only includes those offshore wind projects constructed or in which construction is actively underway. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline, which includes future offshore wind projects in which a commercial lease has been issued and a COP has been submitted to BOEM for review. Impact-levels are defined in each resource section, and conclusions drawn for each alternative align with the respective impact level. The analysis of the No Action Alternative has been reorganized to provide better clarity and impact-level conclusions for the No Action have been reviewed and revised in the Final EIS.

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BOEM-2022-0045-0101	35	• Execute the no-build option (Alternative A) if Project impacts to water quality; marine mammals; coastal and benthic habitats; and culturally, economically, and historically significant shellfish populations and fisheries cannot be determined before the Project is built.	Thank you for your comment. After consideration of the public comments on the DEIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified a preferred alternative in Section 2.1.7 of the Final EIS. BOEM's selected alternative, along with any additional mitigation measures required by BOEM, will be disclosed in the Record of Decision.

Preferred Alternative

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BOEM-2022-0045-0072	1	One issue that has not been adequately discussed in the DEIS is the presentation of an alternative that combines part or all of the four proposed alternatives that achieves the project purpose as well as avoiding and minimizing impacts to coastal and ocean resources and uses (Habitat Impact Minimization, No Surface Occupancy in One or More Outermost Portions, Reduction of Surface Occupancy to Reduce Impacts to Culturally Significant Resources, Selection of a Higher Capacity Wind Turbine Generator). According to the DEIS, only Alternative F, the Higher Capacity Wind Turbine Generator alternative, would potentially contain a combination of the other alternatives. The Final Environmental Impact Statement (FEIS) should consider a final project layout that combines aspects of the four alternatives in an effort to minimize impacts while meeting the project purpose.	Thank you for your comment. After carefully considering the EIS alternatives, including comments from the public on the Draft EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0062	1	Save The Bay supports the development of offshore wind infrastructure that is responsibly sited, built to minimize impacts to offshore species and habitat, and carefully weighs the benefits of renewable energy against unavoidable or negative environmental impacts. With these concerns in mind, Save The Bay strongly supports the habitat benefits provided by Alternatives C1 and C2, and urges BOEM to select Alternative C1 as the preferred alternative. Alternative C1 protects and preserves critical benthic habitat that supports important species like Atlantic cod. While both C1 and C2 are preferable to the proposed action (Alternative B), Save The Bay supports Alternative C1 over Alternative C2 due to the increased protection of contiguous complex habitat, given the unknowns related to specific cod spawning locations. It is imperative that offshore wind be developed conscientiously, by minimizing impacts to critical habitat and limiting negative cumulative effects. Alternative C1 provides important protections while allowing Revolution Wind to meet its power purchase agreement obligations. The habitat features on and around Cox Ledge, consisting of glacial moraine, provide unique bottom features that support a diversity of fish and other marine life. These areas were identified in the Rhode Island Ocean Special Area Management Plan (Ocean SAMP) as Areas of Particular Concern that should be avoided based on the biodiversity they support. Unfortunately, when BOEM approved the subdivision of Revolution Wind's Lease Area (OCS-A 0486) for the South Fork Wind Project, alternatives that were protective of Cox Ledge glacial moraine were not possible due to the division of the leased area and limited size of the new lease area (OCS-A 0517). Selection of Alternative C1 or C2 ensures that key, remaining moraine is undeveloped. Alternative C1 is the most protective and should be selected to protect these remaining Areas of Particular Concern, as identified by the Ocean SAMP, NOAA's Greater Atlantic Regional Fisheries Office, and others, particularly with the loss of habitat that will result from the South Fork project. Additional glacial moraine does not need to be sacrificed to move forward with this project.	Thank you for your comment. After carefully considering the EIS alternatives, including comments from the public on the Draft EIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0071	9	Overall, in recognition of the wide range of adverse impacts on fisheries, fishery species, and habitats across all action alternatives as described in the DEIS, we recommend approval of a combination of Alternatives C-F to minimize the footprint of the project and therefore reduce the magnitude of adverse impacts. If the full extent of these alternatives cannot be combined, we support approval of Alternatives C, D, and F prior to consideration of Alternative E as visual impacts are outside the realm of the mission of the Councils.	Thank you for your comment. After carefully considering the EIS alternatives, including comments from the public on the DEIS, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.
BOEM-2022-0045-0086	12	Revolution Wind appreciates BOEM's guidance in the DEIS which highlights that BOEM could select the implementation of a single Alternative "or a combination of the alternatives retained for detailed analysis in this EIS." Recognizing that each Alternative only addresses one primary impact at a time, we are committed to working with BOEM to develop a layout representing a balanced approach addressing each impact of concern. The Revolution Wind preferred alternative should be a combination of these Alternatives that successfully evaluates and weighs environmental impacts while ensuring the Project meets the stated Purpose and Need by being commercially viable, technically feasible for construction, and utilizing technology currently available to meet its commitments under PPAs.	Based on the information received during the scoping effort and other information, such as the location of sensitive natural resources, BOEM identified alternatives to the proposed action that might reduce possible impacts. The DEIS evaluated a reasonable number of alternatives covering the full spectrum of alternatives, each of which was rigorously explored and objectively evaluated, as well as those other alternatives that were eliminated from detailed study with a brief discussion of the reasons for eliminating them (40 CFR 1502.14). The decision-maker may select elements from several alternatives discussed (40 CFR 1505.1 (e)). Various parts of separate alternatives that are analyzed in the DEIS can also be combined to develop a new, complete alternative in the FEIS as long as the reasons for doing so are explained and it is supported by the analysis. After carefully considering the EIS alternatives, including comments and input from the public, cooperating agencies, and the applicant, BOEM has developed a Preferred Alternative as described in Section 2.1.7 of the FEIS.

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BOEM-2022-0045-0110	16	As discussed below, for the purposes of mitigating impacts to benthic resources, finfish, invertebrates, and EFH, we recommend that BOEM select Alternative C: Habitat Impact Minimization Alternative (in combination with Alternative E to address tribal cultural resource concerns, and, as needed, Alternative F, the use of higher capacity turbines). The Revolution Wind Farm Project overlaps in significant part with Cox Ledge, which contains important complex habitat and Atlantic cod spawning habitat. Because Alternative C would avoid, minimize, and mitigate impacts to such habitats–including impacts from the presence of structures, noise, anchoring and cable emplacement, etc.–more so than the other alternatives, BOEM should select this option. BOEM proposes both an Alternative C1 and an Alternative C2. While we do not make a specific recommendation regarding these two sub alternatives, we note that Alternative C2 is likely the preferred sub alternative because it would reduce impacts to spawning Atlantic cod more than Alternative C1. 43	Thank you for your comment. After consideration of the public comments on the Draft EIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified the preferred alternative as described in Section 2.1.7 of the Final EIS. BOEM will not make any final decision until a ROD is issued.

Proposed Action

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BOEM-2022-0045-0024	1	Using nature-based design elements significantly increases species settlement, richness, and abundance. Furthermore, nature-based design elements allow the structure to actively provide carbon sequestration, decrease the magnitude and frequency of maintenance leading to increased structural lifespan. Ecological concrete is an alternative to traditional concrete and armor rock, for both scour and cable protection, that enhances and encourages the growth of flora or fauna when placed in a marine environment. Studies have indicated that ecological concrete enhances biodiversity and species richness within a short period from deployment. Using ecological concrete also supports compliance with strict environmental regulations.	BOEM has not identified a preferred or required form of scour protection in the FEIS; however, BOEM's proposed mitigation measures outlined in Appendix F (Table F-2 and Table F-3) includes certain requirements or limitation to the types of cable protection that should be used. These requirements are consistent with *BOEM's Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585* which states "If needed, cable protection measures should reflect the pre-existing conditions at the site. This mitigation measure chiefly ensures that seafloor cable protection does not introduce new obstructions for mobile fishing gear. Thus, the cable protection measures should be trawl-friendly with tapered or sloped edges. If cable protection is necessary in “non-trawlable” habitat, such as rocky habitat, then the lessee should consider using materials that mirror the benthic environment." Mitigation resulting from BOEM's Magnuson-Stevens Fishery Conservation and Management Act consultation have also been incorporated into the FEIS.
BOEM-2022-0045-0070	1	Table 2.1-7 provides a summary of the potential ports that could be used to support the Project. There is an additional facility in the Port of New Bedford that needs to be included in this table. Working is underway to develop the The New Bedford Foss Marine Terminal, which will provide an additional full-service base of operations and terminal logistics facility to support offshore wind projects off Massachusetts and the northeastern seaboard. The site being redeveloped for this purpose is the former Sprague/Eversource power plant. The 30-acre property was selected for its proximity to offshore wind blocks south of Martha's Vineyard and Nantucket islands. The New Bedford Foss Marine Terminal will provide storage and laydown yards for equipment and materials, berth facilities for tug and barge operations, and will host crew transfer vessel (CTV) and service operation vessel (SOY) support services. The redevelopment will also create much needed new office space for project teams and a marine coordination center for technicians involved in offshore wind projects. Construction of the terminal facility is anticipated to be completed in the Spring of 2023. We recommend that BOEM conducts a thorough review of this facility, along with the existing New Bedford Marine Commerce Terminal facility, as they relate to the potential uses and services including storage, marshalling, fabrication, construction and/or O&M activities, and electrical activities and support.	Thank you for the comment. The EIS evaluates the ports identified by the applicant in the COP as a component of the Proposed Action, which does not include the Foss Marine Terminal. See Section 3.3.10 of the COP. The cumulative analysis however extends to other past, current, and future projects in the analysis area, and has been adjusted to include this project at the Port of New Bedford. Text edits have been made in Appendix E Planned Activities Scenario under Dredging and Port Improvement Projects.
BOEM-2022-0045-0116	3	My question is: what happens with a disaster? And what happens?	Thank you for your comment. An event of this nature is described in Section 2.2, Table 2.2-1. In the event of a non-routine or low-probability event, Revolution Wind would consult with local, state, and federal agencies as well as other groups to communicate the hazard according to mitigation measure Nav-8 in Appendix F, Table F-1. Revolution Wind would follow statutory requirements for submitting notifications, as described in 30 CFR Section 585.831. 30 CFR Section 585.703 further defines the obligation to submit a report on repairs. In regard to loss of large structural elements, it is expected that surveys, such as those to be performed after a major storm event, would be conducted to evaluate seabed conditions and determine the location of lost structural elements. Results of surveys would be shared with relevant regulatory authorities, and remedial plans, including those for recovery of materials, would be agreed and implemented subject to other provisions contained within 30 CFR 585. Asset integrity inspection plans are being developed by Revolution Wind to define periodic inspections of infrastructure and seabed conditions and provide ongoing assurance of asset integrity. These inspection plans address both structural elements within the wind farm and export and array cable burial conditions. Inspection plans would also define specific requirements for inspections following extreme weather events. In the event that, following such storm events, damage or disturbance is identified and demands remedial activities or repairs, these would be notified and implemented in accordance with provisions defined within 30 CFR 585.

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BOEM-2022-0045-0116	4	How many years before you decommission these towers?	Please refer to Chapter 2.1.2.5 Decommissioning. In accordance with applicable regulations and a BOEM-approved decommissioning plan, Revolution Wind would have up to 2 years to decommission the Project following termination of the lease (up to 35 years post-construction).
BOEM-2022-0045-0115	6	Good afternoon, everybody. Thank you for the opportunity of a comment today. My name is Rachel Krasna with E-concrete. We were interested in commenting on the scouring and skull protection measures. So just as a quick overall um we just wanted to come and suggest that using nature-based design elements will significantly increase. Vc. Settlement, Richness and abundance so using nature-based design, almost allow the structures to actively promote and provide part of the situation. We have decreased magnitude and frequency of maintenance leading to increased structural lifespan. Ecological concrete is an alternative to traditional concrete and iraq for both scour and people protection. So it enhances, encourages the growth of flora and fauna and place and rain environment. The studies have indicated that ecological concrete enhances biodiversity and species richness with a short period from deployment using ecological concrete, also supports compliance with strict environmental regulations. So thank you for that and thank you for the opportunity to comment.	Thank you for the comment.
BOEM-2022-0045-0122	6	ii. Instead of being manned, BOEM personnel stated that crew vessels may be on station where needed. If this is the case, then the DEIS should describe how the vessels should be lighted in greater detail. Crew vessels, as well as OSSs, may have work lights, deck lights, and other unregulated lighting that may produce a significant amount of light pollution depending on if they are anchored. If underway, the only lights should be running lights.	Thank you for the comment. Construction and operational lighting will be limited to the minimum necessary to ensure safety and compliance with applicable regulations. Revolution Wind will comply with Federal Aviation Administration (FAA) and USCG requirements for lighting while using lighting technology (e.g., low intensity strobe lights) that minimizes impacts on sensitive receptors. USCG-approved navigation lighting is required for all vessels during construction and decommissioning of the Project. All vessels operating between dusk and dawn are required to turn on navigation lights. Cable laying may occur 24 hours a day during certain periods. Adequate lighting will be utilized on vessels to ensure worker safety throughout construction including for foundation, WTG, OSS and cable installation. As is required under International Maritime Organization (IMO) requirements for vessels over 500 gross tonnage, the deck area of vessels will be illuminated for the safety of operations and personnel during installation and as needed during transit to facilitate ongoing work on deck. Vessel lighting will be sufficient to meet IMO convention requirements, but the use of any unnecessary or excess lighting will be avoided. Lighting during O&M for WTGs and OSSs have been further detailed in new Figure 2.1-4 and Figure 2.1-6. Lighting that will be visible for viewers on the shore (refer to Section 3.19 Visual Resources) would be primarily limited to lighting required under FAA and USCG regulation as well as lighting on OSS signboards and maintenance lighting. Because the additional lighting must not significantly interfere with navigation lighting as required by USCG, the visibility of additional lighting is anticipated to be limited. Signboard lighting is limited to three low intensity white lights illuminating each of the four sides of the OSS (see Figure 2.1-6). Maintenance lighting is anticipated to be in place on WTG and OSS platforms and would be utilized in the rare instance that maintenance during the night is required and for additional worker safety. These working lights will be diffuse and pointed down towards the platform and similarly cast little light in other directions.
BOEM-2022-0045-0116	8	Beverly Wright, a Member of the Wampanoag Tribe. And last winter, or maybe it was the winter before, the towers in Texas did not operate because the weather was so cold. And there were thousands of people without power. How would they affect us, when we're -- I'm assuming that we're colder than in Texas?	Thank you for the comment. Information related to WTG and OSS design is found in COP Section 3.3.8.1. WTG support structures (i.e., towers and foundations) will be designed to withstand 500-year hurricane wind and wave conditions, and the external platform level will be designed above the 1,000-year wave scenario. The OSSs will be designed to at least the 5,000-year hurricane wind and wave conditions in accordance with the American Petroleum Institute standards. The WTGs will be designed following Class I-B specifications of the standards IEC-61400-1/IEC-61400-3. The design is specifically suited for offshore wind sites with referenced wind speeds of 112 miles per hour (mph) (50 meters per second [m/s] over a 10-minute average) and 50-year extreme gusts of 157 mph (70 m/s over a 3-second average) as well

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			as air temperatures greater than -4° F (-20° C) and less than 122° F (50° C). However, standard environmental operating conditions for the proposed WTGs include cut-in wind speeds of 7 to 11 mph (3 to 5 m/s) and cut-out wind speeds of 55-80 mph (25-35 m/s), and air temperatures between -4º F and 104º F (-20º C and +40º C). The WTGs will automatically shut down outside of these operational limits.
BOEM-2022-0045-0091	9	The final offshore wind development plan should require the project developer to describe how it intends to handle the end of the project's estimated operating life. This should include a consideration and evaluation of several potential options, including repowering and/or refurbishing at one or more stages of the project's projected lifespan, as well as ultimate decommissioning.17 Consideration of these issues at the outset may positively impact design and construction decisions from the perspective of both environmental mitigation and overall project cost. Decommissioning considerations should take into account the environmental and ecological impacts of both a wholesale dismantling and removal of all structures and associated apparatus (essentially retuning the site to a "pre-build state") as well as a more selective approach in which some elements of the project may remain in place. The impact of decommissioning on the surrounding ecosystem should be the first and highest consideration. Consideration of the reuse and recycling of decommissioned equipment should also be part of the process, with disposal/landfilling of material to be considered as a last resort.18 There have been several decommissioned offshore wind facilities in Europe19 and BOEM should look to these for lessons to be learned. While quite different from an offshore wind facility, there may also be lessons to be learned from the much longer history of decommissioning offshore oil and gas facilities.20 In addition, the United Kingdom has issued guidelines for decommissioning offshore renewable energy facilities21 and Ontario Ministry of the Environment and Climate Change has more recently published an "Assessment of Offshore Wind Farm Decommissioning Requirements."22 While these sources will undoubtedly yield useful information, it is important to bear in mind that ultimately any decommissioning plan must be uniquely tailored to the environment in which the project is operating and where the work will occur. We understand that developers that have proceeded to this stage of the permitting process have demonstrated their financial capacity to decommission their projects in an environmentally sound manner. We also note that , in dismissing evaluation of an alternative specifically focused on ensuring adequate security to ensure appropriate project decommissioning, that BOEM has referenced its existing policies that "ensure that the government will not incur decommissioning expenses due to company bankruptcy."23 Notwithstanding these provisions, project approval should require a post a decommissioning bond, in an amount to be determined by the project owner becomes insolvent or is otherwise unable to meet its obligations under the project proposal. The amount of the bond should be based upon the expected decommissioning cost.24	BOEM's regulations are designed to ensure that a lessee or grantee can efficiently decommission their offshore wind facilities on the OCS. Those regulations require the lessee to provide financial assurance to cover decommissioning costs. BOEM requires leaseholders to prepare conceptual decommissioning plans when their project is first proposed and requires more detailed plans for evaluation at the time decommissioning is requested. Conceptual decommissioning plans in the COP must include broad coverage of not only deconstruction and site clearance activities, but also potential impacts to the surrounding environment and potential mitigation measures. Operational conceptual decommissioning plans include methods of removal and site clearance for all management systems and structures, platforms, shore connections and sea-bottom appurtenances, and all bottom-founded and installed structures. Other topics covered in the COP's decommissioning plans are noise and vibration levels, chemical use and management, potential discharges to the sea, and air, electrical systems, and power requirements. For a complete list of BOEM's conceptual decommissioning plan requirements for a COP, see BOEM's Information Guidelines for a Renewable Energy COP at: https://www.boem.gov/COP-Guidelines/.
BOEM-2022-0045-0123	9	Proposed Mitigation Measures The CHRVEA at pg. 60 includes, "Mitigation measures for historic properties, including NHLs, would be stipulated in the MOA and detailed in the historic property treatment plans attached to the MOA. These same mitigation measures, committed to by Revolution Wind in the MOA and identified in COP Appendix BB – Cultural Resources Avoidance, Minimization, and Mitigation Measures, would also be incorporated by BOEM into COP approval." NPS does not appear to have access to Appendix BB. All copies of the COP list this appendix as "Confidential/FOIA-Exempt." NPS requests access to this appendix to understand the measures the project proponent is proposing.	Access to the information in Appendix BB of the COP was provided to the NPS through review of the FOE and draft MOA under the NHPA Section 106 consultation process.
BOEM-2022-0045-0069	11	Two alternating current (AC) export cables at 4-6 ft. burial depth: efforts should be made to avoid not achieving target burial depth to minimize impacts to fishing activities within the cable route. If a cable cannot be buried to 4 ft., or is located at a crossing with existing cables, and mattressing is installed, all cable mattress locations should be made available to the public and mattressing should be designed to limit the creation of new fishing 'hangs'.	Thank you for the comment. As noted in COP Section 3.3.3.2, cable protection strategies are anticipated to be required for 10% of the export cable route in areas where burial cannot occur, sufficient burial depth cannot be achieved due to seabed conditions, or to avoid risk of interaction with external hazards. The location of the export cable and cable protection will be provided to NOAA's Office of Coast Survey after installation is completed so that they may be marked on nautical charts. Text edits have been made.
BOEM-2022-0045-0118	11	And we're very concerned about the decommissioning. We don't think there's ever, ever going to be enough money in that. And we do believe that they're going to default at the end of the decommissioning.	Decommissioning obligations are accrued by the lessee or grantee upon acceptance and signature of the lease or grant and are maintained by the lessee or grantee until the decommissioning process is completed or there has been a BOEM-approved transfer of the lease or grant (30 CFR §585.901). The decommissioning process is made up of the following three distinct stages: decommissioning application, decommissioning notice, and the final notice. These procedures ensure that an offshore wind farm on the OCS will be fully

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			decommissioned and the site will be cleared through both regulatory requirements and the incentive of reimbursement of past financial assurances. The regulatory requirements include compliance with NEPA, ESA, Magnuson-Stevens Fishery Conservation and Management Act, CZMA, and other Federal, state, and local regulations. Detailed Project decommissioning impacts will be evaluated under a separate NEPA process at the end of the Project life cycle. BOEM contracts an independent, third-party consultant to develop an estimate of the decommissioning costs based on the details of the project supplied by the lessee. BOEM uses this estimate in determining the amount of financial assurance required to be provided by the lessee. The estimate is conservative and includes all management costs that would be incurred by BOEM if it was to contract the decommissioning work to a third-party contractor. The amount is subject to revision at any time during the lifetime of the project based on future economic conditions.
BOEM-2022-0045-0059	12	BOEM mentioned on its October 11, 2022 BOEM virtual public hearing webinar for Revolution Wind that specific financial security requirements for decommissioning are required by 30 CFR 585 but that security dollar amounts are kept private. We request that the dollar amounts for decommissioning be made public. The payments that BOEM receives for individual lease sales are made public; the decommissioning security amounts for each project should also be made public. The project itself takes place on public lands of the US OCS, and if the security amounts for decommissioning are not substantial enough to cover actual decommissioning in the future, the public resources and lands of the OCS and the American people will permanently suffer, leaving our oceans forever a wasteland of decrepit steel and cables. BOEM has a public duty to ensure that US public resources are well maintained. Given that BOEM has given the developer wide deference in analysis pertaining to its own project approval, we do not have confidence that BOEM has not done so with decommissioning security costs as well. Lease sale dollar figures are made public; they are not proprietary developer financial details. Neither are securities that the US federal government requires for the future maintenance of US public resources. The amounts required by BOEM for decommissioning securities should be included in an updated DEIS.	Decommissioning obligations are accrued by the lessee or grantee upon acceptance and signature of the lease or grant and are maintained by the lessee or grantee until the decommissioning process is completed or there has been a BOEM-approved transfer of the lease or grant (30 CFR §585.901). The decommissioning process is made up of the following three distinct stages: decommissioning application, decommissioning notice, and the final notice. These procedures ensure that an offshore wind farm on the OCS will be fully decommissioned and the site will be cleared through both regulatory requirements and the incentive of reimbursement of past financial assurances. The regulatory requirements include compliance with NEPA, ESA, Magnuson-Stevens Fishery Conservation and Management Act, CZMA, and other Federal, state, and local regulations. Detailed Project decommissioning impacts will be evaluated under a separate NEPA process at the end of the Project life cycle.
BOEM-2022-0045-0069	12	Horizontal directional drilling (HDD) of the cable at Quonset landfall is the preferred over other installation techniques (e.g., open cut, jet plowing).	Thank you for the comment.
BOEM-2022-0045-0065	12	There is a discrepancy between the amount of expected unexploded ordinance (UXO) described in the DEIS and the amount found by Ørsted in the project area to date. This discrepancy, along with the significant concern regarding impacts to the environment and human safety, are well documented in the letter submitted by Seafreeze Ltd. to this docket.	Since publication of the DEIS, BOEM has received updated survey information on the number and location of UXO identified by Revolution Wind. Text edits have been made.
BOEM-2022-0045-0101	13	Storm Damage—Hurricane-Induced Line Outages MP-THPO Comments and Concerns • What happens if export cables are damaged due to hurricanes?	In the event of significant facility damage, Revolution Wind would follow statutory requirements for submitting notifications to BOEM, as described in 30 Code of Federal Regulations (CFR) Section 585.831. 30 CFR Section 585.703 defines the obligation to submit a report on repairs. Surveys, such as those to be performed after a major storm event, would be conducted to evaluate seabed conditions. Results of surveys would be shared with relevant regulatory authorities, and remedial plans would be agreed to and implemented subject to other provisions contained within 30 CFR 585.
BOEM-2022-0045-0101	15	Section 2.2 of the DEIS, Non-Routine Activities and Low-Probability Events, states the following: Revolution Wind designed the Project components to withstand severe weather events. However, severe flooding or coastal erosion could require repairs during construction and installation activities. Although highly unlikely, structural failure of a WTG (i.e., loss of a blade or tower collapse) would result in temporary hazards to navigation for all vessels. Recommended Action Items. Develop mitigation measures for the following conditions: • A hurricane or nor'easter. • The performing of repairs after weather events to marine habitats, vessel traffic, etc.	In the event of significant facility damage, for example loss of large structural elements into the ocean, Revolution Wind would follow statutory requirements for submitting notifications, as described in 30 Code of Federal Regulations (CFR) Section 585.831. 30 CFR Section 585.703 further defines the obligation to submit a report on repairs. In regard to loss of large structural elements, it is expected that surveys, such as those to be performed after a major storm event, would be conducted to evaluate seabed conditions and determine the location of lost structural elements. Results of surveys would be shared with relevant regulatory authorities, and remedial plans, including those for recovery of materials, would be agreed and implemented subject to other provisions contained within 30 CFR 585. Asset integrity inspection plans are being developed by Revolution Wind to define periodic inspections of infrastructure and seabed conditions and provide ongoing assurance of asset

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			integrity. These inspection plans address both structural elements within the wind farm and export and array cable burial conditions. Inspection plans would also define specific requirements for inspections following extreme weather events. In the event that, following such storm events, damage or disturbance is identified and demands remedial activities or repairs, these would be notified and implemented in accordance with provisions defined within 30 CFR 585.
BOEM-2022-0045-0102	16	The MWT does not know what the OSSs entail. For example, what types of lubricants and chemicals will be used in the OSS and the turbines themselves? U.S. Environmental Protection Agency (EPA) regulations do not sufficiently address perfluoroalkyl and polyfluoroalkyl substances (PFAs) (also known as “forever” chemicals), which are becoming more common in local waterways.	Bisphenol A (BPA) is often used as a building block in epoxy used for blades, however, the BPA used in the WTG blades becomes inert. More specifically it is chemically reacted to an epoxy compound, which further reacts in the curing process, thereby becoming part of the polymer network that makes up the epoxy plastic in the blade material. Therefore, no exposure of BPA is expected from the cured material. The safety data sheets provided by Siemens Gamesa’s suppliers for the materials used in the Siemens Gamesa blades do not mention PFAS. Therefore, it is Siemens Gamesa’s understanding that there is either no use of PFAS or only usages in quantities below the regulatory thresholds for disclosure. In addition, suppliers are required to comply with the Ørsted Code of Conduct for Business Partners and undertakes activities to ensure that subcontractors comply with (i) the Ørsted Code of Conduct for Business Partners or (ii) another suitable framework acceptable to the Contractor with similar expectations regarding basic compliance with applicable laws, respect for labor and human rights, environmental management, and anticorruption. According to the EPA action plan for BPA (https://www.epa.gov/sites/default/files/2015-09/documents/bpa_action_plan.pdf), BPA is expected to biodegrade under environmental conditions, although conflicting results have been obtained using biodegradation screening tests. However, the weight of evidence suggests that it is not expected to be persistent in the environment, and rapid degradation is expected to occur. With regards to the estimated volumes of potential emissions of coating materials from the wind turbines, there have been studies carried out by industry majors which indicated that total material released from wind turbine blades estimated to be as low as 50 grams per blade per year or 150 grams per turbine with 3 engine blades per year (https://factcheck.vlaanderen/factcheck/windturbines-verliezen-geen-62-kg-per-turbine-aan-microplastic). Emissions to the natural environment of any compounds present in the wind turbine blades and the coating used is therefore expected to be low. EIS Section 3.21.2.3 summarizes the maximum potential quantities of hazardous materials consisting of oils, fuels, lubricants for the WTGs and OSSs as presented in COP Tables 3.3.5-2 and 3.3.8-2. All fluids are contained and there are no proposed discharges of chemical or lubricants proposed for Revolution Wind. Furthermore, the OSSs will be designed with a minimum of 110 percent of secondary containment for all identified oils, grease and lubricants, and they will contain integral low-pressure sensors to detect sulfur hexafluoride (SF6) leakage.
BOEM-2022-0045-0102	17	· Review the chemical makeup of the products proposed for use in the WTGs and OSSs for toxicity and to determine whether these products contain PFAs. · Expressly forbid the use of any and all PFAs in all Project phases.	An analysis of the toxicity of the fluids used in offshore wind turbines and substations can be found on BOEM's website at https://www.boem.gov/renewable-energy-research-completed-studies, by clicking on the "Environmental Fates and Effects" tab, and selecting Environmental Risks, Fate, and Effects of Chemicals Associated with Wind Turbines on the Atlantic Outer Continental Shelf. Bisphenol A (BPA) is often used as a building block in epoxy used for blades, however, the BPA used in the WTG blades becomes inert. More specifically it is chemically reacted to an epoxy compound, which further reacts in the curing process, thereby becoming part of the polymer network that makes up the epoxy plastic in the blade material. Therefore, no exposure of BPA is expected from the cured material. The safety data sheets provided by Siemens Gamesa’s suppliers for the materials

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BOEM-2022-0045-0122	17	a. Onshore Activities: It was unclear based on conversations with BOEM personnel at the October 4, 2022, Public Hearing whether there would be any onshore activity on Martha's Vineyard, and in Aquinnah in particular. It was indicated that crew may be stationed on Martha's Vineyard further exacerbating the on-island housing crisis. The planned onshore activity on Martha's Vineyard should be clarified and specified.	Revolution Wind is not proposing to use housing, port facilities, or other infrastructure on Martha's Vineyard.
BOEM-2022-0045-0101	18	Storm Damage—WTG Collapse and Blade Loss MP-THPO Comments and Concerns • Although project proponents and BOEM have each stated that wind turbines are designed to withstand high winds in storm conditions, they have done so without citing actual design parameters such as wind shear and wind speeds. (such as category five hurricanes) What is the mitigation for a storm system causing a collapse of these turbines? Lubricants could spill (or even just leak), and other disasters may occur from turbine collapse. The General Electric (GE) Haliade 12–13 megawatt (MW) turbine—the only specific example of real-world testing—is from dry land. • What is the plan if a WTG blade breaks off, and which agency is tasked with this mitigation? • How will fiberglass in the ocean be addressed? Research and Document Review Summary *WTG Collapse—DEIS* Section 2.2 of the DEIS—Non-Routine Activities and Low-Probability Events—states the following: Revolution Wind designed the Project components to withstand severe weather events. However, severe flooding or coastal erosion could require repairs during construction and installation activities. Although highly unlikely, structural failure of a WTG (i.e., loss of a blade or tower collapse) would result in temporary hazards to navigation for all vessels. Additionally, Table 2.2-1 provides the following: Revolution Wind designed the Project components to withstand severe weather events...Although highly unlikely, structural	In the event of significant facility damage, for example loss of large structural elements into the ocean, Revolution Wind would follow statutory requirements for submitting notifications, as described in 30 Code of Federal Regulations (CFR) Section 585.831. 30 CFR Section 585.703 further defines the obligation to submit a report on repairs. In regard to loss of large structural elements, it is expected that surveys, such as those to be performed after a major storm event, would be conducted to evaluate seabed conditions and determine the location of lost structural elements. Results of surveys would be shared with relevant regulatory authorities, and remedial plans, including those for recovery of materials, would be agreed and implemented subject to other provisions contained within 30 CFR 585. Asset integrity inspection plans are being developed by Revolution Wind to define periodic inspections of infrastructure and seabed conditions and provide ongoing assurance of asset integrity. These inspection plans address both structural elements within the wind farm and export and array cable burial conditions. Inspection plans would also define specific requirements for inspections following extreme weather events. In the event that, following such storm events, damage or disturbance is identified and demands remedial

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		failure of a WTG (i.e., loss of a blade or tower collapse) would result in temporary hazards to navigation for all vessels. Table F-1 contains the following environmental protection measure (EPM): WQ3—Oil spill response plan (OSRP), Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP (COP Appendix D). *WTG Collapse—COP* COP Appendix D—Emergency Response Procedures/Oil Spill Response Plan—contains Appendix F—Ørsted Construction, Operation, and Decommissioning Phase Emergency Response Procedures. Scenario 24 in Appendix F outlines the basic procedures for addressing floating installation parts within the wind farm but includes neither recovery nor salvage plans for collapsed WTGs or OSSs or their components. Additionally, Appendix G within COP Appendix D provides the chemical inventories for each WTG and OSS. Appendix G also notes that both the WTGs and OSSs have been designed with a minimum of 110 percent of secondary containment of all identified oils, grease, and lubricants. The nacelle canopy is designed to contain 1,030 gallons (3,900 liters) of liquid. Furthermore, Appendix G addresses worst-case discharge scenarios, which it defines as a structural failure of the OSS. This event could be caused by the OSS being dropped during construction or by a catastrophic natural disaster. A structural collapse of the substation would cause subsequent ruptures of the transformer's oil reservoir and generator's diesel tank; all spilled fuel and oils from the OSS facility would create a worst-case discharge of contained fluids within the area of operations. Similarly, a major casualty event could occur if one or more offshore WTGs experienced a structural failure or was impacted by a catastrophic natural disaster. In this scenario, the WTGs could be damaged such that they fall into the ocean, possibly releasing up to 6,947 gallons of oil products into the ocean. COP Appendix D also lists two oil spill response organizations (OSROs) with which the developer has preliminary contractual agreements. Per COP Section 3.3.5, Offshore Substations, OSS devices containing SF6 (sulfur hexafluoride) will be equipped with integral low-pressure SF6 leak detectors. *WTG Collapse—November 2021 South Fork Wind Farm Record of Decision (ROD)* Sections 1.1.2 and 1.1.2.4 of Appendix A in the ROD provide mitigation requirements for marine debris awareness and elimination and required marine debris recovery plans, respectively. Per Appendix F of the DEIS, however, the only proposed EPMs or mitigation measures are marine debris awareness training and marking for marine debris elimination; no EPMs or mitigation measures for response and marine debris recovery are provided. *Blade Loss* The following are recent incidents in which WTG blade loss occurred: • On April 6, 2022, a wind turbine lost its rotor and blades in the Ørsted Anholt offshore wind farm in Danish waters. • On October 24, 2021, an installation vessel dropped a hub and three 61-meter turbine blades into the Irish Sea at the Vattenfall Ormonde offshore wind farm. Neither the DEIS nor the COP specifically address these incidents of concern. Although Appendix F within COP Appendix D outlines the basic procedures for addressing the recovery of floating installation parts within the wind farm (Scenario 24), neither recovery nor salvage plans for sunken wind farm components are included.	activities or repairs, these would be notified and implemented in accordance with provisions defined within 30 CFR 585.
BOEM-2022-0045-0122	18	b. Decommissioning: A very quick search of the internet reveals how decommissioning WTGs have caused major issues for jurisdictions. With so many WTGs planned, will BOEM make sure leasees post bonds to ensure the removal of the WTGs when economic, technical, or other circumstances, whether anticipated or not anticipated, cause decommissioning?	Decommissioning obligations are accrued by the lessee or grantee upon acceptance and signature of the lease or grant and are maintained by the lessee or grantee until the decommissioning process is completed or there has been a BOEM-approved transfer of the lease or grant (30 CFR §585.901). The decommissioning process is made up of the following three distinct stages: decommissioning application, decommissioning notice, and the final notice. These procedures ensure that an offshore wind farm on the OCS will be fully decommissioned and the site will be cleared through both regulatory requirements and the incentive of reimbursement of past financial assurances. The regulatory requirements include compliance with NEPA, ESA, Magnuson-Stevens Fishery Conservation and Management Act, CZMA, and other Federal, state, and local regulations. Detailed Project decommissioning impacts will be evaluated under a separate NEPA process at the end of the Project life cycle. BOEM contracts an independent, third-party consultant to develop an estimate of the decommissioning costs based on the details of the project supplied by the lessee. BOEM uses this estimate in determining the amount of financial assurance required

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			to be provided by the lessee. The estimate is conservative and includes all management costs that would be incurred by BOEM if it was to contract the decommissioning work to a third-party contractor. The amount is subject to revision at any time during the lifetime of the project based on future economic conditions.
BOEM-2022-0045-0101	19	Recommended Action Items *WTG Collapse.* Develop mitigation measures to address the following: • The various impacts of a hurricane or nor'easter, including salvage plans for collapsed WTGs and OSSs and the agency tasked to perform the mitigation measures. • The cumulative impact of performing repairs after weather events to marine habitats, vessel traffic, etc. • The potential impacts of catastrophic WTG structural failure on vessel navigation and traffic, including the impacts of debris fields within and outside the boundaries of the wind farm. • Response to and recovery of wind farm-related marine debris. *Blade Loss* Identify mitigation measures for the presence of non-OSRP-related wind farm debris in the ocean.	In the event of significant facility damage, for example loss of large structural elements into the ocean, Revolution Wind would follow statutory requirements for submitting notifications, as described in 30 Code of Federal Regulations (CFR) Section 585.831. 30 CFR Section 585.703 further defines the obligation to submit a report on repairs. In regard to loss of large structural elements, it is expected that surveys, such as those to be performed after a major storm event, would be conducted to evaluate seabed conditions and determine the location of lost structural elements. Results of surveys would be shared with relevant regulatory authorities, and remedial plans, including those for recovery of materials, would be agreed and implemented subject to other provisions contained within 30 CFR 585. Asset integrity inspection plans are being developed by Revolution Wind to define periodic inspections of infrastructure and seabed conditions and provide ongoing assurance of asset integrity. These inspection plans address both structural elements within the wind farm and export and array cable burial conditions. Inspection plans would also define specific requirements for inspections following extreme weather events. In the event that, following such storm events, damage or disturbance is identified and demands remedial activities or repairs, these would be notified and implemented in accordance with provisions defined within 30 CFR 585.
BOEM-2022-0045-0102	19	Has the soil been tested along the cable routes, and what harmful contaminants are in the sediment?	Revolution Wind has conducted sediment, soil, and groundwater investigations in the course of planning, design and permitting for the project. In accordance with the Rhode Island Rules and Regulations for Dredging and the Management of Dredged Materials (250-Rhode Island Code of Regulations (RICR)-150-05-2; the Regulations) and as part of its Application for State Water Quality Certification and Marine Dredging and Associated Activities (July 2021), Revolution Wind conducted an investigation of sediment characteristics within the footprint of the proposed horizontal directional drill (HDD) exit pits at the Landfall Work Area. As directed by the Regulations, Revolution Wind researched dredging projects proximate to the HDD exit pits, consulted with the Rhode Island Department of Environmental Management (RIDEM) and the Rhode Island Coastal Resources Management Council (CRMC) (the Regulatory Agencies), prepared a sediment sampling plan that considered areas impacted by past spill events or otherwise known or suspected to contain contamination, and areas near outfalls, fueling docks or pumps, and collected environmental sediment cores at representative locations along the cable landfall route within approximately 1,000 feet of shore. Sediment cores were collected, handled, and assessed in strict accordance with procedures outlined in the Regulations. Twenty-one sediment samples were submitted for laboratory analysis. Laboratory analytical results were compared with the dredge material disposal criteria outlined in the Regulations. The sediment investigation methodology and results were submitted to the Regulatory Agencies as part of the Revolution Wind Application for State Water Quality Certification And Marine Dredging and Associated Activities. Separately, Revolution Wind performed environmental due diligence investigations within the footprint of the proposed Onshore Components including the proposed Onshore Substation (OnSS), Interconnection Facility (ICF), Onshore Transmission Cable Route, and Landfall Work Area. Revolution Wind prepared a Phase I Environmental Sites Assessment (ESA) for the Project Site in accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site

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			Assessment Process (ASTM Designation: E1527-13), All Appropriate Inquiry (AAI) which identified Recognized Environmental Conditions (RECs) associated with portions of the Site and adjacent properties. The Phase I ESA was provided as Appendix V of the COP. The entire footprint of the Onshore Components falls within the boundary of a Formerly Used Defense Site (FUDS) and several RECs of past activities were identified in the Phase I ESA. Based on the findings of Phase I ESA, a Limited Subsurface Investigation is warranted. A memo regarding onshore sampling is currently being prepared for distribution to RIDEM and will be provided to BOEM upon its completion and submittal to that agency.
BOEM-2022-0045-0122	19	c. Emergency plan: The DEIS states that the emergency plan is confidential. How can the public be assured that the plan properly protects the environment and the people if the plan is confidential?	The Revolution Wind Emergency Response Plan (ERP) addresses emergencies and non-routine events that have a potential to impact people, environment, assets, and reputation. The ERP is submitted as part of the Revolution Safety Management System (SMS) in compliance with 30 CFR 585.810. The ERP will be reviewed and approved by the U.S. Coast Guard (USCG) and Department of the Interior (DOI). Another response plan, The Oil and Hazardous Substance Response Plan (OSRP), is written in compliance with 33 USC 1321 and includes information identified in 30 CFR part 254. The OSRP is reviewed and accepted by the Bureau of Safety and Environmental Enforcement (BSEE). These plans are confidential for a variety of reasons, including but not limited to the fact that they contain contact information for individuals which is private, and that the plans contain information which may be considered to be intellectual property, but they are reviewed by applicable regulatory agencies which are familiar with the requirements for the documents. They will be updated and implemented as necessary and as required.
BOEM-2022-0045-0101	20	Capabilities of Existing Infrastructure MP-THPO Comments and Concerns Because the existing grid/infrastructure is currently incapable of accepting power from a new [power] source[s], and only now this year are power infrastructure improvements on terrestrial lands beginning to be addressed, no reason currently exists to disturb or change any ASL in the Project area. The MPTN further believes that (1) the current overall power grid condition and infrastructure issues are within the scope of Revolution Wind and (2) there exists a cumulative impact of previous and planned offshore wind projects in the region. Research and Document Review Summary Neither the DEIS nor the COP address interconnection points. ISO New England, however, completed a 2021 interconnection process feasibility study for offshore wind in New England. Recommended Action Item Avoid the risk of disturbing or changing any ASL in the Project lease area until a definitive conclusion is reached that the existing grid can accept this and future new power sources.	Electricity generated by the Project will connect into the existing onshore regional electric transmission grid at the Rhode Island Energy Davisville Substation in North Kingstown, Rhode Island. The Project's ISO-New England System Impact Study concluded that upgrades to the existing Davisville Substation and electrical grid beyond the substation are necessary for the Project's interconnection. The execution of any upgrades at the existing substation and of the broader electrical grid, and the specific permitting, engineering, and design requirements to achieve the upgrades, will be performed pursuant to the Project's Large Generator Interconnection Agreement. Revolution Wind is not responsible for maintaining the existing electrical grid; however, it will remain responsible for the maintenance of the Project components, including onshore cables, through the lifespan of the Project. BOEM's authority under the OCSLA to approve certain activity on the OCS does not include authority to regulate the electrical grid. Generally, analysis of the electric grid is outside of the scope of this EIS.
BOEM-2022-0045-0102	20	Provide the results of any completed soil/core sample testing for contaminants that may be distributed due to cable installation—particularly in Narragansett Bay and the water column. Conduct such testing if none has been completed to date.	Revolution Wind has conducted sediment, soil, and groundwater investigations in the course of planning, design and permitting for the project. In accordance with the Rhode Island Rules and Regulations for Dredging and the Management of Dredged Materials (250-Rhode Island Code of Regulations (RICR)-150-05-2; the Regulations) and as part of its Application for State Water Quality Certification and Marine Dredging and Associated Activities (July 2021), Revolution Wind conducted an investigation of sediment characteristics within the footprint of the proposed horizontal directional drill (HDD) exit pits at the Landfall Work Area. As directed by the Regulations, Revolution Wind researched dredging projects proximate to the HDD exit pits, consulted with the Rhode Island Department of Environmental Management (RIDEM) and the Rhode Island Coastal Resources Management Council (CRMC) (the Regulatory Agencies), prepared a sediment sampling plan that considered areas impacted by past spill events or otherwise known or suspected to contain contamination, and areas near outfalls, fueling docks or pumps, and collected environmental sediment cores at representative locations along the cable landfall route within approximately 1,000 feet of shore. Sediment cores were collected, handled,

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			and assessed in strict accordance with procedures outlined in the Regulations. Twenty-one sediment samples were submitted for laboratory analysis. Laboratory analytical results were compared with the dredge material disposal criteria outlined in the Regulations. The sediment investigation methodology and results were submitted to the Regulatory Agencies as part of the Revolution Wind Application for State Water Quality Certification And Marine Dredging and Associated Activities. Separately, Revolution Wind performed environmental due diligence investigations within the footprint of the proposed Onshore Components including the proposed Onshore Substation (OnSS), Interconnection Facility (ICF), Onshore Transmission Cable Route, and Landfall Work Area. Revolution Wind prepared a Phase I Environmental Sites Assessment (ESA) for the Project Site in accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Designation: E1527-13), All Appropriate Inquiry (AAI) which identified Recognized Environmental Conditions (RECs) associated with portions of the Site and adjacent properties. The Phase I ESA was provided as Appendix V of the COP. The entire footprint of the Onshore Components falls within the boundary of a Formerly Used Defense Site (FUDS) and several RECs of past activities were identified in the Phase I ESA. Based on the findings of Phase I ESA, a Limited Subsurface Investigation is warranted. A memo regarding onshore sampling is currently being prepared for distribution to RIDEM and will be provided to BOEM upon its completion and submittal to that agency.
BOEM-2022-0045-0103	26	The operational footprint of IAC protection area is calculated as 74.1 acres (page 2-7 table 2.1-2). The footnote for this table states: ‡‡ The general disturbance corridor width for the IAC is 131 feet (40 meters). IAC protection is calculated by multiplying a portion (10%) of the cable route by the disturbance corridor. If the operational footprint of the cable protection area is calculated as described using the entire disturbance width of 131 feet, it would result in an area of 246.1 acres. Similarly, based on the figures provided for IAC construction and installation footprint of 2,471 acres, cable protection estimated at 10% of the disturbance corridor would be 247.1 acres. However, Table 2.1-8 (page 2-18) states that, for the RWEC, cable protection is for 10% of route length up to 39.4 ft (12 m) wide. Assuming all cable protection is of similar width, the resulting total permanent impact area would be ~74 acres for the estimated 10% of total cable route. It would be useful if more specific cable protection widths and other design features related to cable protection were detailed in the analysis, and the estimates of the operational footprint of cable protection clarified. A typical project section showing cable protection in graphic form would be helpful in this regard. Recommendation: We recommend that the FEIS clarify cable protection width and other design features.	Anticipated seafloor disturbance and secondary cable protection information is outlined COP Appendix X2 Table 4-1. Text edits have been made in EIS Chapter 2 and clarifications made in Table 2.1-8. Disturbance estimates are not additive as disturbance types may overlap.
BOEM-2022-0045-0103	27	The footnote provided to Table 2.1-2 (page 54) indicates that rock placement is the most frequently used solution for scour protection for WTG monopole foundations. Recommendation: We recommend that BOEM identify rock protection as the preferred method for scour protection where practicable, as it more closely represents natural benthic conditions than concrete mattress protection and would likely provide more beneficial habitat.	BOEM has not identified a preferred or required form of scour protection in the FEIS; however, BOEM's proposed mitigation measures outlined in Appendix F (Table F-2) include certain requirements or limitation to the types of cable protection that should be used. These requirements are consistent with *BOEM's Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585* which states "If needed, cable protection measures should reflect the pre-existing conditions at the site. This mitigation measure chiefly ensures that seafloor cable protection does not introduce new obstructions for mobile fishing gear. Thus, the cable protection measures should be trawl-friendly with tapered or sloped edges. If cable protection is necessary in “non-trawlable” habitat, such as rocky habitat, then the lessee should consider using materials that mirror the benthic environment." Mitigation resulting from BOEM's Magnuson-Stevens Fishery Conservation and Management Act consultation have also been incorporated into the FEIS.
BOEM-2022-0045-0101	27	Recommended Action Items • Investigate the feasibility of reducing the overall expected power output of RWF. Doing so would allow for fewer WTGs regardless of the chosen alternative.	BOEM’s regulations require BOEM to analyze Revolution Wind’s proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486. The purpose and need in the EIS reflect the requirement per those regulations,

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			whereas BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP, is needed to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. BOEM's screening criteria is presented in Appendix K, Additional Analysis for Alternatives Dismissed, of the Final EIS.
BOEM-2022-0045-0103	28	Recommendation: We recommend that the FEIS provide detailed information on how frequently and at what scale cable maintenance/repair/replacement will occur, as well as the level of impacts associated with cable maintenance/repair/replacement.	Transmission cable maintenance is outlined in section 3.5.2 of the COP. Routine transmission cable maintenance and survey activities are applicable to all of the cable types. Text edits have been made.
BOEM-2022-0045-0086	63	Page 2-9, Section 2.1.2.1.1: The statement "The WTGs could be accessed from either a vessel via a boat landing" is not correct. The WTG foundations do not have a boat landing for access.	Thank you for the comment. Section 3.3.4.1 of the COP on page 92 states "Secondary structures on each WTG monopile foundation will include a boat landing or alternative means of safe access (e.g., Get Up Safe – a motion compensated hoist system allowing vessel to foundation personnel transfers without a boat landing), ladders, a crane, and other ancillary components." However, based on additional information provided by Revolution Wind in response to a request for information, Section 2.1.2.1.1 of the EIS has been updated to edit out the term "boat landing" from the WTG description.
BOEM-2022-0045-0086	64	Page 2-18, Table 2.1-8: The operational footprint of the RWEC is defined as the project easement (1640-ft x 42 miles = 8,349 acres). COP Table 3.3.3-5 reports the operational footprint of the RWEC as equivalent to the area of secondary protection (RWEC-OCS = 17.8 acres; RWEC-RI 42.7 acres; total 60.5 acres). The same DEIS table incorrectly identifies the construction and installation footprint as equivalent to the area of secondary cable protection (60.5 acres).	Thank you for the comment. Additionally, after publication of the DEIS, RW provided updated estimates for secondary protection needed for the RWEC-RI (a reduction from 10% to 5%). Edits have been made.
BOEM-2022-0045-0086	65	Page 2-18, Table 2.1-8: Table 2.1-8 omits temporary disturbance associated with cable burial trials and omega joints. Values in the table match the habitat mapping report, but do not include values from the following text from the habitat mapping report: "Additional cable burial trials may occur outside of this particular 40-m cable disturbance corridor; these trials will occur within the area surveyed and mapped and will occur within a 40-m corridor. Up to 10 trials over a 250-m length each may be conducted for the RWEC; at present, the division of these trials between the RWEC–OCS and the RWEC–RI is unknown and an even split (5 per) is assumed for these calculations. These trials would add an additional maximum area of seafloor preparation of approximately 24.7 acres (12.36 acres for the RWEC–OCS and 12.36 acres for the RWEC–RI). Further, four omega joints will be required for the RWEC, two will be required per cable, one each along the RWEC–OCS and along the RWEC–RI; these will be buried and will require a seafloor preparation corridor that is 250-m long and 205-m in width, 165-m in addition to the standard 40- m width. These 4 omega joints will add an additional maximum area of seafloor preparation of 40.8 (20.4 acres for the RWEC–OCS and 20.4 acres for the RWEC–RI). Therefore, the total maximum area of seafloor disturbance would be approximately 1,390 acres (1324.5 acres for the 40-m seafloor preparation and installation corridor, 24.7 acres for cable burial trials, and 40.8 acres for omega joints), 625.9 acres associated with the RWEC–OCS and 764.2 acres associated with the RWEC–RI."	Thank you for the comment. Edits have been made.
BOEM-2022-0045-0086	66	Page 2-22, Section 2.1.2.2.3: Language within this section states "Installation of the RWEC at the landfall work area would be accomplished using a horizontal directional drilling (HDD) methodology originating offshore incorporating either a cofferdam configuration or an exit pit with no surface casing and goal posts (see Table 2.1-8)." The statement of originating offshore is inaccurate, and inaccurately notes "no surface casing," although surface casing is included in Section 3. We recommend revising this sentence to read "... HDD methodology originating onshore to the seaward exit pit within RI State Waters and may incorporate a temporary cofferdam or temporary surface casing with supporting goal posts."	Thank you for the comment. Edits have been made.
BOEM-2022-0045-0086	67	Page 2-24, Section 2.1.2.3: The DEIS statement of "Construction could begin as early as the first quarter of 2023", does not agree with the indicative schedule provided on the following page or within the July 21, 2022 Revolution Wind COP.	Thank you for the comment. Edits have been made.
BOEM-2022-0045-0086	68	Page 2-30, Section 2.1.2.3.1: The Revolution Wind Export Cable Segments paragraph states that offshore submarine joints would be located within the 131-foot-wide (40-m-wide) disturbance corridor. COP section 4.1.1.2 reports that up to four omega joints may be required for the RWEC, two per cable, and one each along the RWEC–OCS and along the RWEC–RI. These will be buried and will require a seafloor preparation corridor that is 820 ft (250 m) long and 673 ft (205 m) in width. The anticipated disturbance corridor at the submarine joints is 205 meters.	Thank you for the comment. Edits have been made.

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BOEM-2022-0045-0086	69	Page 2-33, Section 2.1.2.3.2: The statement that "once construction is complete, temporary disturbance areas beyond the operational footprint of both the OnSS and ICF would be restored to preconstruction conditions" is not comprehensive. Recommend revising to note that The OnSS and ICF will include other improvements outside the operational footprint including driveways, maintained landscaping, etc., up to 7.1 acres at OnSS and 4.0 acres for the ICF.	Thank you for the comment. Edits have been made.
BOEM-2022-0045-0086	70	Page 2-35, Section 2.1.2.4.2: Following a recent sale, National Grid is no longer applicable in the following sentence and should be replaced by Rhode Island Energy or simply applicable standards: "Onshore Equipment would be maintained in accordance with National Grid standards."	Thank you for the comment. Text edits have been made.
BOEM-2022-0045-0086	96	Various locations throughout the DEIS includes an out-of-date onshore cable route. Recommend updating with the new route that is found within the July 2022 Revolution Wind COP.	Thank you for the comment. Edits have been made.

Public Involvement

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BOEM-2022-0045-0025	1	Is there any educational campaign planned to reduce consumption of electricity? As houses get bigger, cars go electric and we depend more and more on electronics, it would seem appropriate to promote limiting use of electricity as well as producing alternative energy. In addition, is there any policy in place that would limit the cost of electricity in the future. Here on Martha's Vineyard there has been a substantial increase in the cost of electricity that has our local residents very concerned. Unlike our reputation, we are the poorest county in Massachusetts.	The action analyzed in BOEM's Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf was the establishment of the Marine Minerals Management Service Alternative Energy and Alternate Use Program on the Federal Outer Continental Shelf. Educational campaigns to promote reduction of energy use or implementing policy to limit cost of electricity are outside of the scope of this environmental review. BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486. The purpose and need in the EIS reflect the requirement per those regulations. BOEM's purpose and need as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations.
BOEM-2022-0045-0059	1	BOEM's public meeting process for the Revolution Wind project is significantly flawed. Although the project is based on three Power Purchase Agreements (PPAs) for the states of Rhode Island and Connecticut, with the export cables running through Narragansett Bay in the state of Rhode Island, BOEM is conducting only one public hearing in the state of Rhode Island for the project, none in Connecticut, and two in the state of Massachusetts- one on Martha's Vineyard- a state with no connection to the project.1 Although we state and recognize in our comments throughout BOEM's history of offshore wind leasing that affected fisheries stakeholders are federally permitted to fish in the entire Greater Atlantic Region and affected by many projects not associated with the state where their vessels homeport, we point out that for Revolution Wind, BOEM has gone out of its way to include multiple in-person public meetings in the state of Massachusetts while ignoring the states which supposedly justify the Proposed Action. We request that BOEM justify its reasoning for this meeting schedule and its lack of public inclusivity. For fisheries stakeholders desiring to attend a public meeting, all in person meetings are being held during the week of the Mid Atlantic Fisheries Management Council meeting, and one of the two virtual hearings has also been scheduled during a New England Fishery Management Council meeting. The meetings scheduled by BOEM for this project appear to exclude any meaningful fishery stakeholder participation. The DEIS states that Martha's Vineyard may experience visual impacts as a result of the project. If BOEM considers visual impacts a more important NEPA/OSCLA consideration than cable impacts on federally and state permitted fisheries stakeholders, we would request that BOEM make that clarification, as this is the only explanation for multiple meetings in the state of Massachusetts and only one or none elsewhere where affected fisheries stakeholders would have attended.	Thank you for sharing your concerns with us. BOEM is committed to working with states, Tribes, and stakeholders on our shared ocean resources. In-person meeting locations were selected to be close to the landing site, key port locations, and locations near resources of tribal concern. BOEM also held two virtual meetings to allow for participation by stakeholders that were unable to attend in-person, and provided recordings of the virtual meetings on the BOEM project website. BOEM values the perspective of the fishing industry and regularly engages with commercial and recreational fishermen to understand their concerns from both a biological and socioeconomic impact perspective. This has been accomplished through focused engagement with Regional Fishery Management Councils, participation in state-led fishery advisory group meetings, and the convening of a National Academies Fisheries Steering Committee.
BOEM-2022-0045-0119	1	I want to say that I am very disappointed that BOEM refused to schedule more than one meeting in the State of Rhode Island, despite the fact that the export cable makes landfall in Rhode Island, and the fact that Rhode Island is supposedly going to be purchasing the power from this project. Um Massachusetts, which didn't have any of those things, had two meetings um as opposed to our one, and the only Rhode Island meeting was scheduled during the um Fishery Management Council meeting, so that fishery stakeholders were prevented from participating	Thank you for sharing your concerns with us. BOEM is committed to working with states, Tribes, and stakeholders on our shared ocean resources. In-person meeting locations were selected to be close to the landing site, key port locations, and locations near resources of tribal concern. BOEM also held two virtual meetings to allow for participation by stakeholders that were unable to attend in-person, and provided recordings of the virtual meetings on the BOEM project website. BOEM values the perspective of the fishing industry and regularly engages with commercial and recreational fishermen to understand their concerns from both a biological and socioeconomic impact perspective. This has been accomplished through focused engagement with Regional Fishery Management Councils, participation in state-led fishery advisory group meetings, and the convening of a National Academies Fisheries Steering Committee.
BOEM-2022-0045-0089	2	Our enclosed comments are not complete due to the extensive nature of the materials already available such as the over 1600 pages of Draft Environmental Impact Statement with Appendices and the 151 page Fisheries Research and Monitoring Plan dated October 2021 and our limited ability to conduct a complete technical review. We ask that any comment period regarding this project remain open for an extended time (at least 6 months) to allow RISAA and other fisheries representatives to spend more time reviewing the extensive amount of technical materials.	NEPA requires a 45-day comment period on Draft EISs, a period that may be extended at the discretion of the agency issuing the document. Based on the concerns and comments raised during this review period, BOEM determined that 45 days was adequate. Fishing is an important use of the Exclusive Economic Zone that BOEM must consider in its decision-making. BOEM regularly engages with commercial and recreational fishermen to

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			understand their concerns from both a biological and socioeconomic impact perspective. This is accomplished through focused engagement with Regional Fishery Management Councils, participation in state-led fishery advisory group meetings, and the convening of a National Academies Fisheries Steering Committee. BOEM incorporates fishing industry recommendations into the leasing process by: issuing guidelines to leaseholders or including lease stipulations to develop and implement a fisheries communication plan, developing a fishing industry webpage, and working closely with state partners to address regional fisheries monitoring associated with potential impacts from offshore wind development.
BOEM-2022-0045-0119	2	I would request that BOEM would extend the comment period and schedule another Rhode Island hearing on this project.	NEPA requires a 45-day comment period on Draft EISs, a period that may be extended at the discretion of the agency issuing the document. Based on the concerns and comments raised during the review period, BOEM determined that 45 days was adequate and that another Rhode Island hearing was not warranted. The public comment period included two virtual hearings in addition to the in-person meeting in Rhode Island, as well as a virtual meeting room webpage with the same posters, presentations, and opportunities to provide comment as afforded during the in-person hearings.
BOEM-2022-0045-0116	7	Okay. Jeffrey Madison, I'm the Town Administrator for the Town of Aquinnah. Not looking for a lot of answers, but just to comment on the meeting this evening. The Town of Aquinnah was never provided notice of this, despite the -- of the meeting -- despite the fact that, you know, we have been carrying -- a number of town residents have been carrying on discussions with Revolution Wind for the past -- I don't know -- five, six months, and noticed that the Town of Aquinnah was not listed as a Consulting Party. As the Owners of the Gay Head Lighthouse, the Edwin Vanderhoop Homestead, the land on which the shops are located at the Aquinnah Cliffs, we insist on being included as a Consulting Party. And we've been treated as such by Revolution -- Representatives of Revolution Wind, if not BOEM. So, I've entered these comments into the record. I will be contacting BOEM to include the consideration for mitigation to the impacted properties that I've mentioned. Thank you very much.	Thank you for the comment. BOEM has reached out to the Town of Aquinnah to meet and review the notification process and has extended an invitation to the Town of Aquinnah to be a consulting party on the RWF project. Additionally, BOEM published advance notice of five public hearing dates, times, and locations and the due date for receipt of comments in the Federal Register Notice of Availability and request for comments on the Draft Environmental Impact Statement for the Revolution Wind Farm on September 2, 2022 (87 FR 54248, pages 5428-54250, agency docket no. BOEM-2022-0045, document number 2022-18915). Two of the five public hearings were virtual meetings held to allow for participation by stakeholders that were unable to attend in-person and provided recordings on their BOEM project website. BOEM also published advance notice of five public hearing dates, times, and locations and the due date for receipt of comments in six newspapers located throughout the project area, including two in Connecticut, two in Massachusetts, and two in Rhode Island. Each newspaper ran the notification once a week for two weeks in advance of the first public hearing.
BOEM-2022-0045-0116	12	Berta Welch again. How is it that the island -- if this is the only meeting on the island -- public meeting, how is it there's only 12 Islanders here? I'm just wondering how this was advertised. It -- that doesn't seem correct	Thank you for the comment. BOEM published advance notice of five public hearing dates, times, and locations and the due date for receipt of comments in the Federal Register Notice of Availability and request for comments on the Draft Environmental Impact Statement for the Revolution Wind Farm on September 2, 2022 (87 FR 54248, pages 5428-54250, agency docket no. BOEM-2022-0045, document number 2022-18915). Two of the five public hearings were virtual meetings held to allow for participation by stakeholders that were unable to attend in-person and provided recordings on the BOEM project website. BOEM also published advance notice of five public hearing dates, times, and locations and the due date for receipt of comments in six newspapers located throughout the project area, including two in Connecticut, two in Massachusetts, and two in Rhode Island. Each newspaper ran the notification once a week for two weeks in advance of the first public hearing.

Purpose and Need

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BOEM-2022-0045-0059	2	In the DEIS Purpose and Need for the Proposed Action, BOEM relies heavily on the speculative Power Purchase Agreements (PPAs) dictated by the state mandates of Connecticut and Rhode Island to have 2,000 MWs and 100% renewable energy by 2030, respectively.2 It indeed apparently bases its entire NEPA review on three PPAs speculatively entered by the developer and the states of Connecticut and Rhode Island in 2019, long before the Revolution COP was ever submitted to BOEM for review.3 In fact, very single alternative other than the legally mandated "No Action Alternative" takes great pains to mention that it would fulfill the existing PPAs. For example: Alternative B, "The Proposed Action includes up to 100 WTGs ranging in nameplate capacity of 8 to 12 MW sufficient to fulfill at a minimum the existing PPAs (total of 704 MW)"; Alternative C, "This alternative allows for the fulfillment of the existing PPAs, which total 704 MW"; Alternative D, "Under this alternative, BOEM could select one, all, or a combination of the following three alternatives, while allowing for the fulfillment of the existing PPAs"; Alternative E, "Allows for the fulfillment of the existing three PPAs"; Alternative F "this alternative would be sufficient to fulfill the minimum existing PPAs (total of 704 MW….)". 4 We request that BOEM identify the section(s) of NEPA that lists speculative PPAs conducted by the developer years prior to COP submission as a limiting parameter for NEPA alternative consideration and/or review. We are unaware of any legislative provision that allows BOEM to conduct NEPA review in such a manner and artificially limit its range of alternatives to only those favorable to complete fulfillment of a PPA, particularly when such PPA is privately and speculatively contracted by the developer years prior to analysis and/or COP submission. This arbitrary and capricious decision taken by the agency is artificial constraint of NEPA and does not allow for full analysis or full consideration of mitigation for adverse impacts caused by the project that BOEM may already be aware of or may discover during NEPA review. Nor does it allow for BOEM to fulfill its legal responsibilities under OSCLA. Considering that the DEIS phase is the only phase of the entire BOEM offshore wind leasing process where impacts to other ocean users are considered, as required by both NEPA and OSCLA, BOEM is in violation of these statutes by only conducting analysis on and by only considering alternatives that fulfill in whole the project goals and pre-existing PPAs of the developers applying for approval. BOEM has bowed its legislative duties to the interests of private economic parties engaging in speculative contracts. To put in perspective in the BOEM process, BOEM has often known of pre-existing conflicts, in particular fisheries conflicts, prior to siting an offshore wind lease on fishing grounds or prior to offshore wind COP approval when such conflicts have become apparent during the public comment/NEPA analysis phase of the project.5 However, BOEM, rather than removing those areas from the lease or from consideration for buildout at the outset of its process so as to deconflict, contends that it will consider all impacts and possible alternatives for mitigation at the DEIS stage, after a developer submits a COP, and then approve/disapprove in whole or in part accordingly. It is at this stage that BOEM portends to comply with OSCLSA and prevent interference with reasonable uses of the ocean, such as commercial fishing. But BOEM, at the DEIS stage, will only consider alternatives that fulfill PPAs contracted before the COP was submitted to it for analysis. Therefore, it cannot deconflict. If BOEM refuses to consider pre-existing fisheries conflicts in its process, but is willing to consider pre-existing speculative PPAs as its sole criteria for alternative analysis, how can BOEM conduct objective analysis? It cannot. No type of permitting occurs in this manner. A simple analogy would be if an individual contracted with a builder to construct a shed on his property, prior to obtaining planning permission to construct the shed. If the town planning board reviewed the application, subject to all town and state zoning laws and standards, disapproved the shed or could only approve a smaller shed, or in a different location, the individual would have to negate his previous contract with the shed builder and re-contract pursuant to the restrictions imposed by the town zoning board. No town zoning board in the United States would adjust their rules and regulations or permit approvals to accommodate the individual simply because the individual had already speculatively contracted with the shed builder prior to submitting his permit to the town. Yet this is exactly what BOEM is doing with unprecedented and giant infrastructure projects in our oceans, which will have unprecedented impacts to existing ocean users and the natural environment, among others. Not only is this poor planning but it flies in the face of reason on every level. BOEM's recent NEPA standardization, "Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act (NEPA)" 6, on which it bases its rationale for the alternatives chosen for analysis in the Revolution Wind DEIS is flawed, arbitrary and capricious, as it only analyzes alternatives that allow for full pre-existing PPAs. We incorporate herein our comments on this issue previously submitted to	Section 8(p) of the Outer Continental Shelf Lands Act (OCSLA), it's implementing regulations, and Lease OCS-A 0486 require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486 and either approve it, disapprove it, or approve it with modifications. The purpose and need in the EIS reflect the requirement per those regulations. Changes to BOEM's renewable energy program are outside of the scope of this environmental review and would be analyzed through a separate process. BOEM's purpose and need, as stated in Section 1.2, is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP, is needed to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. BOEM's screening criteria is presented in Appendix K, Additional Analysis for Alternatives Dismissed, of the Final EIS. Under the NEPA regulations at 40 CFR § 1508.1(z), "reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible, and meet the purpose and need for the proposed action." Offshore wind projects rely on offtake agreements to obtain upfront financing for the capital costs of constructing the project. Without its existing offtake agreement, Revolution Wind would not construct its proposed project, or any of the action alternatives described in the DEIS. BOEM finds that the unique position of offtake agreements necessitates more deference than a typical contract between two private for-profit entities. An alternative that fails to meet the main goal of the applicant would be equivalent to analyzing a no action alternative. Therefore, BOEM considers it appropriate under NEPA to analyze alternatives that would allow lessees to meet the obligations under their offtake agreements.

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		BOEM in our comments on BOEM's Draft Fisheries Mitigation Guidance (BOEM-2022-0033-0003)7 and BOEM's Notice of Intent to Prepare a Programmatic Environmental Impact Statement for Future Wind Energy Development in the New York Bight (BOEM-2022–0034)8. Footnote 2: DEIS, p. ES-1. Footnote 3: DEIS, p. ES-2. Footnote 4: DEIS, p. ES-3-5. Footnote 5: See, for example, the Equinor and Vineyard Wind projects. Footnote 6: See https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf and https://www.boem.gov/newsroom/notes-stakeholders/boem-standardizes-process-environmental-reviews-offshore-wind. Footnote 7: See our complete comments here: https://www.regulations.gov/comment/BOEM-2022-0033-0090 and here: https://www.regulations.gov/comment/BOEM-2022-0033-0088. Footnote 8: See our comments here: https://www.regulations.gov/document/BOEM-2022-0034-0007/comment?filter=Seafreeze.	
BOEM-2022-0045-0071	4	The DEIS purpose and need section references the national 30-GW offshore wind energy goal. The section also indicates that biodiversity and ocean co-use should be protected. We suggest expanding on this to make it clear that the project will avoid risks to the health of marine ecosystems, ecologically and economically sustainable fisheries, and ocean habitats. BOEM should clearly acknowledge that if these risks cannot be avoided, they should be minimized, mitigated, and compensated for. We are concerned that including the three current power purchase agreements summing to 704 MW as a component of the purpose and need limits BOEM's ability to approve a smaller project than that proposed by the developer. This will limit BOEM's ability to avoid and minimize negative impacts of the project while still meeting the purpose and need. Also, given multiple reasons to consider reducing the number of turbines associated with this project (habitat, space-use conflicts, transit, and visual impacts) we are concerned that the upper size limit for this project is 880 MW, which represents a 25% increase over 704 MW. The large range in potential total operating capacity makes it difficult to estimate and subsequently reduce and/or mitigate impacts effectively.	BOEM evaluated the alternatives using the screening criteria presented in Appendix K, Section K.1, Alternatives Screening Criteria. Consistent with those criteria, and because the underlying action triggering the NEPA review is an authorization decision on Revolution Wind's COP, an alternative that fails to meet the main goal of the applicant as outlined in the COP would be equivalent to analyzing a no action alternative. When meeting an offtake agreement(s) is the primary goal of the applicant's proposal, 3 PPAs in the case of Revolution Wind, BOEM considers it appropriate under NEPA to analyze in detail only those alternatives that would allow lessees to meet the obligations under their offtake agreements. The alternatives in the EIS consider a reasonable range of alternatives that reduce the project footprint to the extent practicable while still meeting the purpose and need.
BOEM-2022-0045-0065	10	BOEM's recently-announced policy to identify NEPA alternatives directly contradicts the suggestions from RODA and fishing industry representatives across the country, for nearly a decade, to improve its approach to environmental analysis.13 NEPA must be approached to fulfill the agency's purpose and need, not that of a project applicant (although the applicant's interests and objectives may be taken into account).14 The purpose of NEPA is "to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation."15 Typically a purpose and need statement must incorporate this overarching purpose in conjunction with action-specific legislation, which in this case is the Outer Continental Shelf Lands Act (OCSLA).16 An appropriate purpose and need statement for this action would lead BOEM to prioritize OCSLA and NEPA's focus on environmental safeguards and eliminating damage to the environment. An agency cannot circumvent its NEPA obligations "by adopting private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives" nor can it "craft a purpose and need statement so narrowly drawn as to foreordain approval of" a project proposed by a private party.17 Yet, the Revolution Wind DEIS evidences how the combination of BOEM's new policy and its current sequencing of NEPA lead to exactly that unsavory result. Since states' OSW goals and private power purchase agreements are signed prior to (and outside of) environmental review, predicating such review on their terms inherently predisposes its outcome. The only time sufficient planning flexibility exists to modify project plans to avoid or minimize fishing impacts is at the lease planning phase. Once lease boundaries are drawn, mitigation is possible through project design but power procurement contracting greatly limits the flexibility to achieve such a goal. Thus, BOEM's sequencing of its project review under NEPA significantly weakens any weight the agency has committed to afford robust and consequential mitigation for fisheries if it only reviews mitigation alternatives after these opportunities are lost. This regulatory sequence also prematurely limits environmental mitigation options such as siting in areas with low conflicts with fisheries or marine mammals. An agency policy to review fisheries considerations at the latest stages of project planning, once projects are locked in to lease boundaries and procurement terms, frustrates attempts to incorporate meaningful mitigation measures and we therefore again urge BOEM to reconsider its treatment of fisheries under NEPA. If anything, the NEPA environmental analysis should inform power purchase contracts, not the inverse.18 Finally, the purpose and need for action	Section 8(p) of the Outer Continental Shelf Lands Act (OCSLA), its implementing regulations, and Lease OCS-A-0486 require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0486 and either approve it, disapprove it, or approve it with modifications. The purpose and need in the EIS reflect those requirements. The purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Revolution Wind's COP. BOEM's action is needed to fulfill its duties under the lease, which require BOEM to make a decision on the lessee's plans to construct and operate a commercial-scale offshore wind energy facility within the Lease Area (the Proposed Action). BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. BOEM's screening criteria is presented in Appendix K, Additional Analysis for Alternatives Dismissed, of the Final EIS. Mitigation and monitoring measures identified for consideration in the EIS and Record of Decision are summarized at the end of each resource area (Sections 3.4–3.22). Appendix F Environmental Protection Measures (EPM), Mitigation, and Monitoring further describes the EPMs committed to by the developer in the COP, and additional mitigation and monitoring measures being considered by BOEM. Any implemented mitigation will be coordinated with applicable agencies.

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		under this section of OCSLA differs vastly from public messaging by BOEM, OSW developers, and states, which cite climate change and job creation as the main justifications for OSW projects. If these are central to the purpose of the project, they should be stated as such and thoroughly evaluated in this and other DEIS documents. If not, they should not be cited in public statements as primary rationales for permitting.	
BOEM-2022-0045-0100	17	Additional language provided in the Purpose and Need does not reflect the agreed upon template language previously coordinated with BOEM, and its relevance is not clear. Specifically, the final paragraph on this page states, "In making this determination, the Secretary retains wide discretion to weigh those goals as an application of their technical expertise and policy judgment (DOI 2021). This determination is made at the record of decision (ROD) stage. If BOEM disapproves the Revolution Wind COP, per 30 CFR 585.628(f)(2), BOEM will inform Revolution Wind of the reasons and allow Revolution Wind an opportunity to resubmit a revised COP addressing the concerns identified." Please ensure that the P&N is consistent with language previously agreed upon and that included language is clearly relevant. This language may be more applicable in sections of the document discussing Regulatory Frameworks (1.3).	BOEM has reviewed and updated the Purpose and Need language as appropriate in relation to BOEM's authority.
BOEM-2022-0045-0100	19	Please ensure that the P&N is consistent with previously agreed upon language and reads as follows: "The purpose of the NMFS action—which is a direct outcome of Revolution Wind's request for authorization to take marine mammals incidental to specified activities associated with the Project (e.g., pile driving)—is to evaluate (insert developer name)'s request pursuant to specific requirements of the MMPA and its implementing regulations administered by NMFS, considering impacts of the applicant's activities on relevant resources, and if appropriate, issue the permit or authorization."	Thank you for the comment. The requested edits have been incorporated into Section 1.2 of the FEIS.

Suggested New Alternative

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BOEM-2022-0045-0065	9	This EIS should explicitly include alternatives for analysis that serve to mitigate the project's impacts to fishing, including the specific requests above, those raised during scoping and in previous comment letters incorporated by reference above, and those listed on RODA's website (attached hereto as Appendix IV).8 Unfortunately, only of the alternatives in the DEIS (transit lanes) would serve as a mitigation measure and it is not afforded a "hard look" in the analysis. BOEM's practice to date has been to incorporate mitigation measures under consideration as appendices or Record of Decision conditions rather than analyzing them fully as alternatives. Since the scoping period for this DEIS, BOEM issued a new policy that has the effect of excluding alternatives from environmental review that would in fact reduce or mitigate fisheries impacts. The "Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the NEPA"9 released in June 2022 standardizes the alternatives BOEM will consider during the NEPA process and clarifies BOEM's policy of considering only a narrow range of alternatives consistent with a developer's preferred project plans.10 Indeed, it affords the terms of cost-competitive procurement agreements "more deference than a typical contract between two private for-profit entities," although such contracts are nearly entirely driven by profit and energy maximization and without environmental review. The document only references mitigation in the context of what should not be considered as a NEPA alternative; that is, it suggests actions with "substantially similar effects" to other options should be considered outside of the range of alternatives.11 We urge BOEM to reconsider this policy. Specifically, for the Revolution Wind and all other proposed OSW projects, the agency should include alternatives for analysis in each of its environmental review documents describing specific fisheries mitigation solutions and afford these full, neutral consideration. Stand-alone alternatives will more clearly inform public comment and allow better evaluation of potential mutual benefits or tradeoffs. As a public agency, BOEM's consideration of alternatives should include those that reasonably mitigate impacts to fishing whether or not a developer has voluntarily proposed to incorporate them in its Construction and Operations Plan (COP) and whether or not they could require reasonable modifications to private contracts. This is especially true, as in the case of this Revolution Wind DEIS, when highly affected members of the public have properly proposed specific fisheries mitigation alternatives for analysis and public input through the scoping process. The DEIS provides clear evidence of the failure of this policy with regard to fisheries mitigation. While acknowledging that significant scientific uncertainty exists over the impacts to Atlantic cod of this and other OSW projects in the region, BOEM nevertheless states "the similarity between the layouts analyzed for the different alternatives does not render any of this incomplete and unavailable information essential to a reasoned choice among alternatives."12 This admission not only ignores the very existence of a "No Action" alternative, but shows that BOEM's construction of NEPA alternatives is not affording genuine consideration to strategies that would reduce fisheries impacts.	Thank you for your comment. BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need in the EIS reflect the requirement per those regulations, whereas BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP, is needed to fulfill BOEM's duties under the lease. As part of the NEPA process alternatives were considered and screened if it was outside the jurisdiction of the lead agency as described in Appendix K. Mitigation and monitoring measures identified for consideration in the EIS and Record of Decision are summarized at the end of each resource area (Sections 3.4–3.22). Appendix F Environmental Protection Measures (EPM), Mitigation, and Monitoring further describes the EPMs committed to by the developer in the COP, and additional mitigation and monitoring measures being considered by BOEM.

Resource Areas and Appendices

Air and Climate

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BOEM-2022-0045-0114	2	While I realize that BOEM is following NEPA's avoid/minimize/mitigate mantra, together with your interpretation of the necessary level of alternatives analysis, I think the document is lacking in an upfront assessment of the broad environmental and economic benefits against some specific, modest, well mitigated impacts. First and foremost, the primary environmental benefit of the Project, the elimination approximately 1.5 million tons of CO2 per year is completely lost in the weeds. This is the primary driver for the Project and the benefit against which the Project's modest and well mitigated impacts must be weighed and balanced.	Thank you for your comment. Table 3.4.-12 estimates the annual and lifetime avoided emissions for the operation of the Project in lieu of the same amount of energy being produced by existing fossil fuel-dependent energy sources.
BOEM-2022-0045-0086	2	The Project will bring significant economic and environmental benefits to the communities within the State of Rhode Island, the State of Connecticut, and other states that will be part of the offshore wind installation and operation supply chain. The Project will generate enough clean energy to power more than 350,000 Rhode Island and Connecticut homes annually. Through displacement of conventional generation, the Project is expected to displace over 1 million metric tons of carbon emissions annually, the equivalent of removing 150,000 cars from the road, leading to overall cleaner air and water directly because of the Project.	Thank you for your comment.
BOEM-2022-0045-0110	6	We agree that offshore wind projects “produce less net greenhouse gas (GHG) emissions over the life of the projects when compared to other energy sources currently in use.”23 We urge BOEM to expand its analysis of offshore wind’s beneficial climate impacts. The DEIS details many of the pressing impacts that climate change presents to communities, people, wildlife, and natural resources,24 as well as the benefits offshore wind brings from carbon and other pollutant emissions reductions.25 However, the DEIS does not account for the climate benefits of displacing full life-cycle emissions of gas generation, which includes the release of the highly potent global warming potential of methane emissions (84 times that of CO2 on a 20-year time frame) emitted during the extraction and in the transmission and compression of gas. The DEIS also does not monetize these climate benefits using the social cost of carbon to illustrate differences between the social benefits of the Project and the relative social cost of the alternatives. We recommend integrating the social and environmental costs of greenhouse gas emissions into the evaluation of project impacts and impacts of alternatives. The Interagency Working Group on Social Cost of Carbon has produced estimates for the social cost of carbon in order to “allow agencies to incorporate the social benefits of reducing carbon dioxide (CO2) emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions.” The working group presents values for social costs from 2015 to 2030, assuming discount rates of 5 percent, 3 percent, 2.5 percent and the 95th percentile of the 3 percent discount rate. These values range from $11 to $212 (in 2007 dollars per metric ton of CO2)26 and could be used to monetize the costs imposed by the net greenhouse gas emissions associated with failing to procure the approximately 33 GW of offshore wind contemplated by this DEIS.	The EIS does not take into account the full life-cycle emissions of gas generation because it is not being compared to the full life-cycle of the wind project. For simplicity's sake, the focus is on the generation of electricity via wind vs. fossil-fuel generated electricity The text has been revised to include additional social cost of carbon discussion.
BOEM-2022-0045-0086	13	Appendix E.2 on page 3.4-23, first paragraph of Section 3.4.2.2.3 of the DEIS states "The Proposed Action’s construction emissions (see Tables 3.4-9 and 3.4-10) would noticeably increase emissions of regulated pollutants over the construction emissions generated by other offshore wind projects associated with the No Action Alternative (see Table 3.4-4). Therefore, total cumulative construction-related air emissions from all planned offshore wind energy projects, including the Proposed Action, in the OCS air permit area would consist of an estimated 29,333 tons of NOX, 189 tons of SO2, 915 tons of PM10), and 2,186,369 tons of CO2." Revolution Wind recommends that instead of "in the OCS Permit area" it should state "in the Massachusetts Wind Energy Area", since many of the other offshore wind project emissions would be occurring outside of Revolution Wind's OCS Permit area. Revolution Wind also recommends the same change in the third paragraph of the same section regarding O&M emissions.	The text has been revised.
BOEM-2022-0045-0086	14	Appendix E.2 on page 3.4-23, second paragraph of Section 3.4.2.2.3 states "Table 3.4-14 combines the total estimated construction emissions contributed by the Proposed Action within the OCS air permit area with the estimated local construction emissions that occur beyond the OCS air permit area and within 15.5 miles of shore (RWF-New Jersey, RWF-Massachusetts, RWEC-Rhode Island, etc.).” However, the emissions represent general conformity emissions, which includes emissions within 25 miles of shore, not 15.5 miles as the paragraph suggests. Revolution Wind recommends updating the DEIS text accordingly.	Table 3.4-14 shows the total estimated construction emissions contributed by the Proposed Action within 25 miles of the estimated Project center (corresponding to the OCS Lease Area); and onshore construction areas and ports that may be used for the Project (RWF-New Jersey, RWF-Massachusetts, RWEC-Rhode Island, etc.) within 25 miles of the estimated area/port center.

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BOEM-2022-0045-0086	15	Appendix E2 on pages 3.4-21 and 3.4-22 of the DEIS states that the Environmental Protection Agency (EPA)'s Co-Benefits Risk Assessment (COBRA) screening model Desktop Edition, Version 4.1 was used to estimate the health impacts of avoided emissions in the United States and in the combined area of Connecticut, Maryland, Massachusetts, New Jersey, New York, Rhode Island, and Virginia. Over the course of 5 years, the statistical lives saved within the entire United States is between 5.44 and 12.31. This 5-year estimate is representative of the avoided emissions during operations only. This would represent a long-term minor beneficial impact due to avoided health events. Revolution Wind agrees with this conclusion that the Project will have long-term minor beneficial impact due to avoided health events.	Thank you for your comment.
BOEM-2022-0045-0103	17	In Table F-1, EPM AQ-4, the DEIS indicates that air emissions will be mitigated because marine engines with a model year of 2007 or later and non-road engines complying with the Tier 3 standards (in 40 CFR 89 or 1039) or better will be used to satisfy best available control technology (BACT) or lowest achievable emission rate (LAER). However, EPA has previously required the use of the Tier 4 engines (in 40 CFR 1042) as LAER for project vessels operating as OCS sources if Tier 4 engine vessels are available at the time of deployment.1,2 EPA notes that it is currently reviewing the application submitted by Revolution Wind on August 12, 2022 and has not determined BACT or LAER for the Revolution Wind project at this time. Recommendation: EPA recommends that the FEIS clarify BACT or LAER requirements for vessels operating as OCS sources may be as stringent as Tier 4 engine standards, and will be determined by EPA's OCS air permit. Furthermore, the Anticipated Enforcing Agency in Table F-1 for EPA AQ-4 (i.e. BACT and LAER requirements) should be the U.S. EPA.	The text has been revised.
BOEM-2022-0045-0103	18	Section 3.4.1 of the DEIS indicates that the geographic analysis area depicted in Figure 3.4-1 encompasses the region subject to EPA's review as part of an OCS permit for the Project under the Clean Air Act (CAA). EPA notes that according to the scale on Figure 3.4-1, it appears that 25 statute miles were used to depict the geographic analysis area in Figure 3.4-1. However, EPA interprets the regulations at 40 CFR part 55 to use nautical miles for the purposes of determining potential emissions from the source. Recommendation: EPA recommends that the FEIS use nautical miles to define the geographic analysis area and update Figure 3.4-1 if necessary.	Nautical miles were used to depict the geographic analysis area in Figure 3.4-1. For consistency in this EIS, in-text distances in miles are reported in statute miles (miles used in the traditional sense). Nautical miles are reported for marine navigation and other marine-specific resources.
BOEM-2022-0045-0103	19	The DEIS states that a visibility or deposition modeling analysis was not conducted as part of this EIS analysis because both Lye Brook Wilderness and Brigantine Wilderness Class I areas are located more than 155 miles away from the Lease Area. Recommendation: EPA recommends the FEIS indicate that as part of EPA's OCS air permit, the project will be evaluated for compliance with NAAQS and PSD increment for operating emissions and a significant impact level and AQRV analysis at the Lye Brook Wilderness Area for construction emissions.	The text has been revised.
BOEM-2022-0045-0103	20	In Table F-1, EPM number AQ-1, the DEIS identifies the use of low-sulfur fuel as mitigation for impacts of air emissions. EPA notes that the majority of emissions from the project over its lifetime are emissions from vessel engines, particularly during the construction phase of the project. Recommendation: EPA recommends that as an additional mitigation measure BOEM require RWF to pursue the procurement of the most efficient and lowest emitting vessels available during the vessel-contracting stage of the project. As part of this process, the FEIS should provide a discussion of the various options that are available to reduce these emissions. In addition, the FEIS should consider options for reducing emissions from ongoing operations and maintenance activity, such as the purchase of lower emitting or electrified crew vessels. In addition, the FEIS should explore the feasibility of requiring other mitigation measures such as anti-idling practices and the retrofitting of older equipment and vessels with the cleanest, most efficient technologies to further ensure air quality impacts will be minimal.	Project approval is contingent on complying with conditions of the OCS air permit. No change made in the EIS.
BOEM-2022-0045-0103	21	Many of the ports proposed for use by the project are in areas that may have existing air quality issues and/or environmental justice concerns. Recommendation: In addition to the mitigation measures identified in Table F-1, EPA recommends that BOEM's FEIS explore the feasibility of requiring emission reduction best practices for ports such as vessel speed reduction requirements, Tier 4 Final EPA certified equipment, or the use of marine shore power systems. More information regarding air emissions reduction methods at ports can be accessed at https://www.epa.gov/ports-initiative.	Thank you for the comment. BOEM does not have the authority to regulate activity or enforce mitigation measures in ports, which are subject to any state laws regarding anti-idling. If Tier 4 equipment is required, it would be required by the OCS Air Permit. The text has been revised to recommend limiting engine idling time in the lease area.

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BOEM-2022-0045-0103	22	The DEIS notes that "…state and local agencies would be responsible for managing actions to help minimize and avoid air quality impacts on nearby neighborhoods during construction." The FEIS would benefit from a more complete discussion of this issue. Recommendation: EPA encourages BOEM to coordinate with local and state authorities and that the FEIS incorporate a discussion of that coordination and any related actions developed to minimize construction period air quality impacts to neighborhoods. We also recommend that Section 3.4.2.2.3 include a discussion whether cumulative air emissions of regulated contaminants may have greater impacts in areas already in non-attainment.	Additional mitigation and monitoring measures to minimize impacts to air quality in adjacent neighborhoods during onshore construction may arise from the OCS Air Permit and coordination with Federal and State resource agencies under other statutes, such as the Coastal Zone Management Act. BOEM does not have the authority to regulate activity or enforce mitigation measures in ports or onshore, however, any BOEM COP approval (with or without modification) would require that Revolution Wind obtain an OCS Air Permit and comply with all permit requirements during construction activities. The EIS analysis assumes compliance with all other federal and state permit requirements under other statutes when evaluating impacts. Section 3.4.2.2.3 has been revised to expand the discussion of impacts in areas of non-attainment.
BOEM-2022-0045-0103	23	EPA agrees with the following statements in section 3.4 of BOEM's DEIS: "The CAA amendments of 1990 established the nonattainment designations as marginal, moderate, and serious. If a region is designated as nonattainment for a NAAQS, the CAA requires the state to develop a state implementation plan (SIP). A SIP provides for the implementation, maintenance, and enforcement of the NAAQS, and includes emission limitation and control measures to attain and maintain the NAAQS. The CAA also prohibits federal agencies from approving any activity that does not conform to a SIP, and this prohibition applies only with respect to nonattainment or maintenance areas (i.e., areas that were previously nonattainment and for which a maintenance plan is required). Conformity to a SIP means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of such standards." EPA does not share the view, however, that BOEM's approval of the COP is not subject to the requirement to show conformity.	Thank you for the comment. BOEM acknowledges EPA's general disagreement with the concluding sentences of BOEM's Draft EIS on page 3.4-3 regarding the applicability of General Conformity. BOEM will continue to engage with EPA and state partners on this subject.
BOEM-2022-0045-0103	25	The FEIS would benefit from a more robust consideration of climate change risks to the proposed action in the description of the affected environment. Recommendation: We recommend that the discussion be expanded to include consideration of climate resiliency measures, particularly for infrastructure that may be vulnerable to the impacts associated with climate change (such as sea level rise, more frequent storms, etc.). This discussion would provide additional details regarding the durability of the proposed infrastructure (including WTGs and buried cables at all locations) in the face of more severe weather and more severe sea states.	Thank you for the comment. The text has been revised to include discussion of climate resiliency measures for the infrastructure.

Appendices

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BOEM-2022-0045-0086	89	Appendix E2, Page 3.14-3, Figure 3.14-1: This figure seems misplaced in a discussion about landfall location. By having all the BOEM lease areas identified is misleading, creating a sense that it is part of the GAA.	Figure 3.14-1 illustrates the geographic analysis area (GAA) for Land Use. Because the Proposed Action may include activities located at one or more ports on the Atlantic Coast, the Land Use GAA includes these ports which are outlined in bold blue and identified as such in the figure legend. The BOEM Lease Areas located along the Atlantic Coast are included for spatial reference. A written description of the Land Use GAA with details regarding potential port use is provided in Section 3.14.1 prior to Figure 3.14-1.
BOEM-2022-0045-0100	202	The second sentence should refer to consultations, as NMFS does not issue a permit or authorization under the ESA. Critical habitat is missing from the third sentence.	Thank you for your comment. Edits have been made.
BOEM-2022-0045-0100	203	This section is being mischaracterized by its placement in the section called "Consultations". The action being taken under the MMPA is not a consultation; it is an authorization. Please retitle the section "Consultations and Authorizations".	Thank you for your comment. Edits have been made.
BOEM-2022-0045-0100	205	Please clarify what the values in table E.4-1 represent, and how they were calculated. Please provide a clear explanation above the table, and indicate in the table heading what the values represent.	Thank you for the comment. Edits have been made.
BOEM-2022-0045-0100	214	Figures should be provided illustrating all available cod spawning data in the project area. For clarity, the habitat complexity delineations with large boulder overlay should also be included.	Thank you for your comment. Figure K-1, Figure K-2, and Figure K-3 in Appendix K include boulder overlays. Additionally, Figure 3.6-3 and Figure 3.6-5 have been added in Section 3.6 Benthic Habitat and Invertebrates.

Bats

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BOEM-2022-0045-0086	71	Page 3.5-5, Section 3.5.1.1: Under the "Light" subheading, suggest replacing "the wind turbines may also be lit with aviation lighting" with "The wind turbines will be lit with aviation lighting, although the duration of lighting will be minimized by ADLS".	Suggested text has been revised where indicated. Text in Section 3.5.1.1 under Light IPF was relocated to Section 3.5.2.2.2 under Light IPF (BOEM reorganized the No Action Alternative section).
BOEM-2022-0045-0110	109	The DEIS concludes that the Proposed Action (and all action alternatives) would have overall negligible adverse impacts on bats and negligible to minor adverse cumulative impacts to bats.309 The DEIS bases this finding on repeated claims that bats "rarely" occur offshore310 and that, coupled with the offshore Project Area being far from shore311 and wide spacing of WTGs,312 and the COP and DEIS claim that impacts to individual cave-hibernating bats "are unlikely"313 and that "very few individuals" of migratory tree bats would be exposed to operating turbines.314 However, as discussed below, these claims are not well supported by research and thus it is inappropriate to conclude that impacts to bats will be negligible. Both BOEM and Revolution Wind acknowledge uncertainty around bats' use of the offshore environment.315 In both the COP and DEIS, very limited data are presented on bats' use of the mid-Atlantic OCS and these sparse data are insufficient to draw conclusions about bat risk from the proposed project. Both the COP and the DEIS, however, overly downplay migratory tree bat and cave bat activity offshore and do not properly account for bats' potential attraction to offshore structures, such as WTGs.	The NEPA analysis uses the best available data for assessing potential impacts to bat species in Section 3.5.1 of the EIS (e.g., Hatch et al. 2013, Dowling and O'Dell 2018, Stantec 2016, 2018, Peterson et al. 2014, Sjollema et al. 2014). Conclusions on the severity of impacts are based on survey data regarding bat occurrences in the offshore environment.
BOEM-2022-0045-0110	110	Both the COP and DEIS claim that only "small numbers"316 migratory tree bats' use of the OCS and that cave bats are "generally not observed offshore"317 and "typically do not occur on the OCS."318 Although both the COP repeatedly points to Revolution Wind's distance from shore as significantly minimizing impacts,319 these documents do not adequately acknowledge research that has found bats to be widespread in the offshore environment, including at distances further offshore than the Project Area.	While the potential for these species to be present is acknowledged both in Appendix AA of the COP and the EIS, studies suggest relatively low bat activity/use in the offshore environment compared to onshore (e.g., Stantec 2016, 2018, 2019; Sjollema et al. 2014, etc.). The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities.
BOEM-2022-0045-0110	111	In offshore bat surveys of the Great Lakes, Gulf of Maine, and Mid-Atlantic, migratory tree bats were widespread, with eastern red bats detected at 97 percent of all surveyed sites (and 100 percent of sites in the Mid-Atlantic), including the most remote fixed site (41.6 km from mainland) and potentially on shipboard surveys over 100 km offshore.321 Eastern red bats alone accounted for 40 percent of all detected bat activity offshore. Hoary bats and silver-haired bats had less total activity offshore but were still widespread, found at 95 percent and 89 percent of all sites, respectively.322 Data in Motus also indicate eastern red bats and hoary bats have made cross-water flights near Long Island.323 These limited data do not support BOEM's claim that migratory bats' use of the OCS and infrequent and limited and that "very few individuals would encounter operating WTGs[.]"324 Additionally, the DEIS and COP describe bat use of the offshore environment as seasonal and therefore exposure to turbines is low.325 However, seasonal exposure does not imply low risk, as that the best available science on bats and wind energy interactions from land-based wind energy in North America indicates that seasonal exposure of bats to wind turbines326 can cause significant fatalities.327 With limited research available on bats offshore, BOEM cannot dismiss the evidence from land-based wind that even temporally limited (e.g., during seasonal migrations) interactions with turbines can cause significant impacts, in particular on migratory tree bats such as eastern red bats, silver-haired bats, and hoary bats.	While the potential for these species to be present is acknowledged both in Appendix AA of the COP and the EIS, studies support low bat activity/use in the offshore environment compared to onshore (e.g., Stantec 2016, 2018, 2019; Sjollema et al. 2014, etc.). The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities.
BOEM-2022-0045-0110	112	Both the COP and the DEIS are emphatic that that cave-hibernating Myotis bats' use of the wind farm area is expected to be low328 and therefore exposure to WTGs (and thus potential for collision) will be minimal to low,329 "if exposure occurs at all[.]"330 These findings rely, in part, on two inaccurate claims, that (1) in the Mid-Atlantic, Myotis bat species have never been detected further than 11.5 km offshore,331 and (2) cave-hibernating bats are rare in the offshore environment.332 Peterson et al. (2016) detected Myotis calls at several Mid-Atlantic sites further offshore than 11.5 km, including at the Chesapeake Light Tower in Virginia, 24.8 km from the mainland.333 Additionally, bat calls classified as high frequency, unknown species were detected as far as 130 km offshore in the Mid-Atlantic.334 While it is not possible to attribute these unidentified calls to species, high frequency, unknown species calls can include calls from Myotis species. Furthermore, cave-hibernating bats may be found offshore more frequently than the assessments in the COP and DEIS indicate. Acoustic survey efforts in the Mid-Atlantic identified Myotis calls at 63 percent of sites surveyed, and Myotis species were present at 89 percent of sites surveyed across the Gulf of Maine, Mid-Atlantic, and Great Lakes.335 Motus data also	While the potential for these species to be present is acknowledged both in Appendix AA of the COP and the EIS, studies support low bat activity/use in the offshore environment compared to onshore. The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities.

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		indicate that Indiana bats, little brown bats, and eastern small-footed bats—all Myotis species—have made potentially made cross-water flights in the New York Bight and the Project Area.	
BOEM-2022-0045-0110	113	The DEIS further states that the federally listed337 "[n]orthern long-eared bats are not expected to occur within the Lease Area[,]"338noting that even if they were to migrate over water, "most movements would likely be near the mainland."339 Because "there is little evidence of use of the offshore environment by northern long-eared bats, exposure is expected to be minimal, and this species is not further assessed."340 While limited offshore movement data exist, the presence of northern long-eared bats on both Martha's Vineyard and Nantucket indicates that this species can cross open water and the species has been tracked making long distance flights over water in the Gulf of Maine.341 Moreover—and acknowledged within the DEIS—a northern long-eared bat was acoustically detected 34 km offshore around South Fork Wind Farm.342 Given the potential for the species to use the offshore environment, the detection of a northern long-eared bat during South Fork surveys, and the lack of survey effort to provide evidence of absence, BOEM should not consider exposure and risk to northern long-eared bats and other cave bats to be negligible and instead require Revolution Wind to conduct monitoring to better understand the potential presence of and collision risk to northern long-eared bats in the offshore Project Area.	While the potential for this species to be present is acknowledged both in Appendix AA of the COP and the EIS, studies support relatively low bat activity/use in the offshore environment compared to onshore. Offshore use and potential effects to NLEB are analyzed in detail in the BA (BOEM 2022). The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities.
BOEM-2022-0045-0110	114	Moreover, the federally endangered Indiana bat is inappropriately excluded from analysis because the DEIS and COP state that is not believed to be present in Rhode Island.343 Data submitted to Motus indicate that, in 2015, a tagged Indiana bat was detected on Cape Cod and Nantucket. BOEM should acknowledge the potential presence of Indiana bats in the Project Area and require Revolution Wind to monitor for their potential presence.	The single Indiana bat detection in 2015 was located outside the RWF project area. This information has been added to the EIS. Indiana bat was not identified by the USFWS as being potentially affected under Section 7 of the ESA compliance. The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities.
BOEM-2022-0045-0110	115	Although the DEIS acknowledges that offshore structures, including offshore turbines, may attract bats344 and that bats are attracted to land-based wind turbines,345 this attraction effect is not well accounted for in how it could increase collision risk (which BOEM describes as having negligible to minor impact on bat populations346). In fact, the DEIS explicitly states that the wide spacing of the turbines will allow "bat species to avoid individual WTGs and minimize risk of potential collision."347 This assertion is starkly at odds with the best available scientific information on bats and wind turbines which indicates that bats will change course not to avoid, but to approach wind turbines.348 BOEM must consider the potential that bats could be attracted to offshore wind turbines—which would dramatically increase collision risk—and update the impact assessment accordingly. The COP and DEIS's survey data are likely insufficient to determine bat exposure to the offshore Project Area. While pre-construction surveys represent an important first step in assessing bats' use of the offshore environment (including information on which bat species may be present), pre-construction monitoring is likely inappropriate for predicting post-construction fatality risk for bats. At land-based wind facilities, pre-construction bat activity does not correlate with post-construction fatalities,349 possibly due to bats' attraction to turbine structures (as discussed earlier).350 Furthermore, recent research at buoys, vessels, and the two Dominion found considerable differences in bat activity in the presence of turbines as compared to open water.351 This once again underscores that BOEM should not draw conclusions about Revolution Wind's impacts on bats based on sparse pre-construction data.	BOEM's analysis is based on the best available data, the wide turbine spacing will likely reduce the chance of encountering a turbine and thus reducing collision risk. However, there is uncertainty about how bats respond to turbines in the offshore environment. The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities.
BOEM-2022-0045-0110	116	Because of the significant data gaps that preclude meaningful impact analyses for bats and offshore wind development, robust monitoring, especially post-construction monitoring, will be critical to better understanding potential impacts to bats from Revolution Wind's operations. As new technologies become available for monitoring impacts at offshore wind facilities, such as strike detection technology, BOEM should require Revolution Wind to commit to deploying these and, if monitoring reveals that impacts to bats are non-negligible, BOEM should require Revolution Wind to employ minimization strategies and deterrent technologies.	The Avian and Bat Post-Construction Monitoring Framework is described in Appendix G and Table F-2 of the EIS and is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
BOEM-2022-0045-0110	117	Because, as discussed above, pre-construction acoustic activity does not accurately predict post-construction fatalities for bats at land-based wind facilities, a commitment to post-construction monitoring is critical to yielding a better understanding about how bats interact with offshore wind turbines. We commend Revolution Wind for their commitment to two years of post-construction acoustic monitoring for bats and deploying Motus towers.352 We appreciate the acknowledgement of the need for adaptive monitoring and management353 but are concerned that the proposed measures that are described as adaptive mitigation for birds and bats (measures Bird-11	The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation

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		and Bat-9) only commit Revolution Wind to document and report dead or injured birds and bats.354 We underscore the importance of BOEM's proposed measure that, "should bird and bat impacts deviate substantially from the impact analysis included in the this EIS, then Revolution Wind must make recommendations for new mitigation measures or monitoring methods."	measures could be considered by decision makers and incorporated into the Record of Decision.
BOEM-2022-0045-0110	118	Revolution Wind's proposal for two years of post-construction acoustic monitoring356 is an excellent first step. We recommend that Revolution Wind install bat detector stations at nacelle height (rather than on convertor stations, turbine platforms, and/or buoys) so as to detect activity when bats are in the rotor swept zone and more likely at risk for collision. Additionally, BOEM should require that all acoustic data be reported and submitted to Bat Acoustic Monitoring Portal, BatAMP.	This technical suggestion may be considered in the development of the final monitoring plan. The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
BOEM-2022-0045-0110	119	We are excited to see Revolution Wind proposing to install and upgrade Motus towers and support radio-tagging of ESA-listed birds. We recommend that Revolution Wind also support the tagging of bats, which are underrepresented in Motus, to support understanding of bat activity offshore. Additionally, we suggest that BOEM require deployment of Motus towers pre-construction in coordination with USFWS's offshore Motus network, as BOEM is requiring new lessees in both the New York Bight and Carolina Long Bay.358 We also urge Revolution Wind to keep Motus towers deployed, active, and maintained for as much of the lifetime of the project as possible. Data from these towers will not only inform Revolution Wind's adaptive management but also, as multiple offshore wind projects are developed, a long-term network of Motus towers in the offshore environment will shed much needed light on species' movements offshore. This would also support Revolution Wind's commendable intention to coordinate their monitoring with efforts from other offshore wind projects in the area.	This technical suggestion may be considered in the development of the final monitoring plan. The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
BOEM-2022-0045-0110	120	Revolution Wind should report the results of all carcass detections on vessels and project structures,360 not just carcasses of ESA-listed species, to BOEM and USFWS. We also note that assessing bat fatalities based on carcasses found on vessels and structures is unlikely to provide a meaningful estimate of bat fatalities, as carcasses can fall far from the wind turbine, based on carcass size, wind speed, turbine height, and other factors. BOEM should consult with experts to determine what, if any, inferences about total fatalities can be made from carcasses detected on vessels and project structures.	Annual Bird and Bat mortality reporting is included as a mitigation measure in Table F-2 in EIS Appendix F.
BOEM-2022-0045-0110	121	As mentioned above, we strongly support BOEM's proposed measure that Revolution Wind recommend new mitigation measures or monitoring measures "[i]f the reported post-construction monitoring results…indicate bat impacts deviate substantially from the impact analysis included in this EIS[.]"362 However, there is a lack of clarity as to what would trigger this adaptive management. The post-construction monitoring for bats that Revolution Wind has proposed—two years of acoustic monitoring—will provide information on bat activity in the Project Area. It will not, however, provide information on bat collisions, which are potentially the greatest source of impact to bats from offshore wind development. No research or methods are presented to translate bat activity into bat impacts nor are we aware of any methods accepted by subject matter experts to do so. Because the proposed monitoring methods are unlikely to provide estimates of bat collisions from Revolution Wind's offshore operations, we recommend that Revolution Wind improve their adaptive monitoring proposal to include a commitment to deploy collision detection technologies. Although we support Revolution Wind's intent to "work with BOEM, USFWS, and other relevant regulatory agencies, to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring, based on an ongoing assessment of monitoring results[,]"363 Revolution Wind did not propose the use of "[e]merging technologies, such as multi-sensor radar/camera collision detection systems" as these technologies "have not yet been broadly deployed offshore or demonstrated to effectively reduce uncertainties related to potential impacts on birds and bats."364 While we agree that no collision detection technologies are validated and commercially available for use offshore, BOEM should require Revolution Wind to commit to deploying collision detection technology, once available, even if their commercial availability falls outside of the two to three year post-construction window proposed by Revolution Wind. Strike detection technology is in development, with one technology to be tested on an offshore wind turbine in early 2023.365 Revolution Wind should work with agency staff and researchers to determine the appropriate duration of post-construction fatality monitoring using their current proposed	The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.

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		methods and for after collision detection systems are installed. The above recommendations should be included in the to-be-developed Avian and Bat Post-Construction Monitoring Plan,366 and this plan should be made publicly available.	
BOEM-2022-0045-0110	122	As discussed above, assessing cumulative effects is essential to understanding impacts, and this is particularly important for bats, where the best available scientific information indicates that cumulative impacts from land-based wind energy have the potential to cause significant population-level declines.367 Revolution Wind's DEIS states that the Proposed Action and other reasonably foreseeable projects will result in negligible to minor adverse cumulative impacts on bats.368 but insufficient research is provided to support this claim, especially given the issues discussed above with the project-level impact analysis for bats. Of particular concern for the accuracy of BOEM's cumulative impact analysis for bats is the geographic analysis area. BOEM defined the geographic analysis area as 100 mi offshore and 5 mi inland.369 This is at odds with the geographic analysis area used for bats for Vineyard Wind 1, where the area extended 100 mi inland.370 BOEM presents no research in the DEIS to support the assumption that bats found offshore exclusively use near-coast habitat on land (i.e., five miles or less from the coasts) to support this limited geographic scope. A survey of available research on bat migration does not support BOEM's rationale for their more limited scope of analysis in Revolution Wind's DEIS. Although the migratory movements of bats, especially migratory tree bats, are poorly understood, many species of bats—both long-distance migrants like migratory tree bats but also cave bats—are capable of flights in excess of 100 km, indicating that bats found offshore in wind development areas could also be found significant distances inland. Research from Canada found that 20 percent of little brown bat movements exceeded 500 km,371 which is further supported by data from tracked little brown bats, which shows individuals using both coastal areas and making long-distance flights to locations significantly further inland than 5 mi.372 Hoary bats, which are capable of long distance flights over water,373 have been recorded traveling over 1,000 km374 and are thought capable of migrations in excess of 2,000 km.375 Furthermore, in addition to little brown bats, data in Motus tracks movements of individual silver-haired bats, eastern red bats, hoary bats, eastern small-footed bats, and Indiana bats from coastal areas on the east coast to areas in excess of 100 mi inland.376 These movements do not support a geographic analysis area that extends only 5 mi inland but rather suggest that bats exposed to offshore wind energy projects could be found far inland (and therefore exposed to land-based wind energy facilities) and that a geographic analysis area that extends 100 mi inland would be more appropriate. BOEM should conduct a thorough review of the literature on bat migration and radio- and GPS-tagged bats and select a boundary that better reflects the potential habitat use of exposed bats. This revised boundary will likely require an updated analysis to reflect that bats exposed to offshore wind projects could not only be exposed to multiple offshore wind facilities but also be exposed to land-based wind energy projects.	Comment noted. Just because a bat is physically capable of traveling long distances does not mean that they regularly do and it certainly does not mean that they regularly travel those distances over open ocean. The onshore limit for the geographic analysis is defined by where the activities are likely to be and not by the theoretical distance bats can travel.

Benthic Habitat and Invertebrates

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BOEM-2022-0045-0098	1	Some uncertainty also exists about the effects of some impact-producing factors (IPFs) on benthic resources. For example, the available information on invertebrate sensitivity to electromagnetic fields (EMFs) is equivocal (Hutchinson et al. 2020), and sensitivity to sound pressure and particle motion effects is not well understood for all species (e.g., squid sensitivity to vibration effects transmitted through sediments). However, information from monitoring studies of European wind facilities and, more recently, the Block Island Wind Farm in the United States provides no indication of biologically significant adverse effects. LICFA questions the accuracy of this information, specifically that regarding impact-producing factors (IPFs) on benthic resources. There are a variety of studies that have taken place more recently that those on pg 3.6-39 that state "Most invertebrates are insensitive to hearing injury as they lack the specialized organ systems evolved by vertebrates to sense sound pressure (Popper et al. 2001)," and "Particle motion effects dissipate rapidly and are highly localized around the noise source, with detectable effects on invertebrates typically limited to within 3 to 6 feet of the source (Edmonds et al. 2016; Payne et al. 2007.)" In fact, in "The importance of particle motion to fishes and invertebrates,' from The Journal of the Acoustical Society of America 143, 470 (2018) 1; By Drs Arthur Popper and Anthony Hawkins, they state the opposite. In that paper, they petition regulators and scientists to research and fill data gaps in order to better understand the interactions between particle motion and aquatic animals, and highlight "the importance of particle motion to fishes and invertebrates; and sound propagation through both water and the substrate." In their conclusions they state "EIAs (Environmental Impact Assessments) intended to examine the potential effects of sound on fishes and invertebrates often overlook key factors, and especially the sensitivity of many of these animals to the particle motion component of sound rather than sound pressure. There are several reasons why these assessments fail to deal with particle motion adequately. These include the difficulty in measuring and modeling particle motion, the lack of experimental data on the responses of fishes and invertebrates to potentially damaging levels of particle motion, and the absence of guidelines—based on particle motion— that indicate the levels of particle motion that are likely to have adverse effects upon animals." Popper and Hawkins described further the gaps in knowledge that needed to be addressed re particle motion before making any broad brush statements re effects to fish and invertebrates in 2019, 2 "An overview of fish bioacoustics and the impacts of anthropogenic sounds on fishes,"	Thank you for your comment. The noise impact analysis for invertebrates has been revised to incorporate the most current available science on invertebrate sensitivity to noise impacts. We acknowledge that particle motion effects on some species associated with intense noise sources (i.e., impact pile driving and UXO detonation) may have more extensive and severe effects on certain invertebrate species.
BOEM-2022-0045-0096	2	Reduce impacts to complex benthic habitat, namely Cox Ledge, to the greatest extent practicable As noted in the DEIS, a large portion of the project area includes complex benthic habitat known as Cox Ledge. This area plays host to a wide range of marine resources which rely on the unique and complex glacial moraine habitat for feeding, spawning, and development at various developmental stages. As noted by the National Marine Fisheries Service (NMFS) June 2021 scoping comments for the NOI to prepare an EIS for the Revolution Wind Project, Cox Ledge "is known to support spawning aggregations of Atlantic cod." See NMFS Scoping Comments, June 2021. NMFS went on to express their concern regarding impacts any development of the area would have on Atlantic cod habitat and populations. Id. The CRMC agrees with NMFS concerns regarding impacts to Cox Ledge and Atlantic cod habitat and builds on those comments to state a preference for a reduced number WTG positions and a reduced inter array cable (IAC) footprint. The DEIS states that noise produced during impact-pile driving for WTG foundation installation will kill or damage eggs and larvae within 1,680 feet of the foundation. See DEIS at 3.6-40. Additionally, the recovery of the complex habitat which hosts these eggs and larvae will be long-term (i.e. two years to longer than the life of the project). See DEIS at 3.6-41 to 3.6-42. By reducing the number of turbine positions and footprint of IACs, these long-term impacts to the complex habitat and marine resources will be mitigated.	Comment and recommendation noted. No change made in EIS.
BOEM-2022-0045-0069	5	Conduct high resolution benthic habitat characterization and avoid areas of sensitive benthic habitats. These habitats provide refuge and structure for juvenile fish and invertebrates, as well as spawning areas for adult life history stages. The NOAA Greater Atlantic Regional Fisheries Office recently developed benthic habitat mapping recommendations to better inform Essential Fish Habitat consultations: https://media.fisheries.noaa.gov/2021-03/March292021_NMFS_Habitat_Mapping_Recommendations.pdf?null. These recommendations should be followed to ensure avoidance of sensitive habitats.	Revolution Wind has conducted the recommended benthic habitat mapping and characterization survey to support COP development. This analysis was conducted consistent with the NOAA 2021 guidance and was used to support the impact analysis presented in the DEIS.

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BOEM-2022-0045-0059	10	We contest the DEIS conclusion that "The available research indicates that invertebrates are similarly insensitive to UXO detonation, meaning that only those invertebrates within a short distance from the blast impact footprint would be able to detect the associated particle motion effects."62 The DEIS similarly states "Construction-related sources of sound pressure and vibration that could affect invertebrates are impact and vibratory pile driving, construction vessels and HRG surveys, and UXO detonation. In general, mollusks…are less sensitive to noise-related injury than many fish because they lack internal air spaces and are therefore less vulnerable to sound pressure injuries on internal organs than vertebrates (Popper et al 2001)." 63 Sandwiched in between the above statements, BOEM acknowledges the particular effects of sound sensitivity and particle motion exposure to squid, quotes various studies on the subject, but then concludes "These findings suggest that squid could experience injury or behavioral effects from intense underwater noise exposure, but evidence for this type of effect is limited and additional research is needed."64 BOEM cannot identify data, then ignore it, and conclude that impacts to squid will be "minor". Cumulatively, for the Revolution Wind and surrounding projects, as well as projects up and down the coast, the impacts to longfin squid, whose habitat significantly overlaps with multiple offshore wind leases, are prospectively very high. As squid is the most significant part of Seafreeze's business, we have a high degree of interest in protecting this species or suffer huge potential losses. BOEM must separate out squid from other invertebrates and conduct a spatial and temporal analysis for this species compared to offshore wind leasing and construction activities, including the Proposed Action. We have attached a new troubling study entitled "Commercial cuttlefish exposed to noise from offshore windmill construction show short range acoustic trauma", accepted by the scientific journal Environmental Pollution in July 2022.65 Cuttlefish are similar species to squid. We request that BOEM add this into its analysis for Revolution Wind as well as the cumulative spatial and temporal analysis for squid in particular. We request that the result of this analysis be incorporated into the DEIS. This analysis should also include information from both the DEIS combined with the information from squid particularly that eggs and larvae are expected to experience death is approximately one quarter of a mile.66 For longfin squid, which has eggs and larvae that overlap both inside and outside the MA/RI Wind Energy Area in time and space with planned construction activities, this is concerning. We request that analysis include this aspect of potential resource threat as well, including the consecutive years of construction in the area expected.	Thank you for your comment. The noise impact analysis for invertebrates has been revised to incorporate the most current available science on invertebrate sensitivity to noise impacts. We acknowledge that particle motion effects on some species associated with intense noise sources (i.e., impact pile driving and UXO detonation) may have more extensive and severe effects on certain invertebrate species.
BOEM-2022-0045-0065	13	The DEIS correctly highlights uncertainty regarding: (1) biological productivity; and (2) oceanographic processes including seasonal stratification, due to lack of information in either direction from monitoring studies to date.19 However, it incorrectly concludes that the available information on each supports a reasoned choice among alternatives. With regard to the first, the DEIS references uncertainty only "about the long-term effects of changes in biological productivity resulting from the creation of new habitat types along the Atlantic OCS in the form of a distributed network of artificial reefs." In a case of clear bias, it does not mention the destruction of soft-bottom habitat critical to life stages of various marine organisms, including commercially important fishery stocks. As to the second, the DEIS conflates project-specific fisheries monitoring with the ability to predict oceanographic process changes, concluding that the former provides no evidence of the latter. These topics are almost entirely irrelevant to each other.	The DEIS identifies the extent of short-term to permanent impacts on soft-bottomed habitats. That analysis includes the estimated acres exposed to long-term to permanent displacement of this habitat type and/or its conversion to different habitat types resulting from the presence of structures, scour protection, and cable protection (see Section 3.6.2.2.2). As defined in DEIS Section 3.3, permanent impacts are those impacts that are anticipated to last for the life of the project. The extent of soft-bottom habitats exposed to displacement or conversion by the project represents a small percentage of the habitat available to marine organisms in the northern mid-Atlantic OCS. Those habitats would be expected to fully recover when the proposed project is decommissioned and removed at the end of project life. Those habitats would not be irreversibly lost, therefore the term "destruction" is not appropriate in this context.
BOEM-2022-0045-0071	14	In terms of habitat impacts, the Councils are concerned about the impacts of boulder removals required for cable installation, especially when done via plow. The FEIS should specify plow width and the size of the area that will be impacted. The nature of this impact is very different from dredging used to harvest seafood, and the scientific literature on fishing gear impacts is unlikely to provide a reasonable proxy for the impacts of boulder clearance plows. For example, fishermen attempt to avoid boulders to reduce the risk of costly damage to fishing gear.	Thank you for your comment. The disturbance corridor width for boulder relocation is 40 meters. This activity may be conducted using a plow or by boulder pick/grab, to be determined based on vessel availability.

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BOEM-2022-0045-0069	14	Construction and decommissioning of offshore wind farms may lead to loss of sediment and thus certain habitats. During any construction, local water turbidity may increase, as suspended solids and contaminants within the sediments may be mobilized and transported by prevailing water movements. • These mobilized sediments may also smother neighboring habitats of sessile species, as well as the living organisms themselves (Gill 2005). • Suspended sediment poses a threat to fish within the construction area, as it may physically clog their gills and limit oxygen intake (Lake and Hinch 1999). Larval states are more vulnerable than adult life history stages due to more limited mobility, as well as larger gills and higher oxygen consumption in proportion to body size (Auld and Schubel 1978; Partridge and Michael 2010). • Sediment dispersal may also smother eggs and benthic suspension feeders by clogging the feeding or respiratory apparatus. Some benthic epifauna and deep burrowing infauna may also be unable to escape burial by displaced sediment. While sedimentation events are generally brief, seabed communities may be greatly altered and take years to recover (Maurer et al. 1986). • The RODEO study of the benthic habitat changes at the BIWF documented heavy colonization of the turbine structures by blue mussels three years post-construction, demonstrating changes in the dominant biota. Black sea bass were found in large numbers and appeared to benefit from added structure (Hutchison et al. 2020). o The study also found that the BIWF did not demonstrate the same strong vertical epifaunal zonation as observed on European farms. This may suggest that after three years, the habitat is still in a successional state and additional monitoring is needed to document the final successional stage (Hutchison et al. 2020). As such, longer benthic assessments should be conducted on projects moving forward. • Soft sediments are generally preferred for wind farm development, as hard substrates may create challenges in turbine foundation and transmission cable installation. o Grabowski et al. (2014) suggest that soft sediment habitats have an inherent ability to recover more rapidly from anthropogenic impacts than other substrates. However, Henriques et al. (2014) contend that this is not appropriate logic to develop such areas due to the high number of affected species and possible consequences of impacts on those species for ecosystem structure and function (Grabowski et al. 2014; Henriques et al. 2014).	Comment noted. The analysis of and impact determination for TSS effects considers the effects referenced in the comment. Additional references noted in the comment were reviewed and incorporated where appropriate.
BOEM-2022-0045-0086	23	The DEIS concludes negligible to minor long-term effects on benthic invertebrates from High Voltage Alternative Current (HVAC) Electromagnetic Field (EMF). However, the DEIS does not identify any replicated, demonstrated adverse effect of AC fields at levels produced by the submarine cables. Where the label "adverse" is applied to electric or magnetic fields it is not specified what effect is identified as adverse, whether the effect would apply to an individual or a population, and whether the effect is temporary or permanent. For clarity, it would be appropriate to define what constitutes an adverse effect with respect to potential exposure to EMF so that cited scientific literature can be interpreted. Moreover, the DEIS reports minor to moderate long-term adverse effects on benthic invertebrates from High Voltage Direct Current (HVDC) transmission cables. As this project has been designed and planned to include HVAC cables, it is not appropriate to assess effects for HVDC cables. We believe that this may set a precedent for future projects.	Impact terminology are defined in DEIS Section 3.3, Table 3.3-2. As stated, a "minor" impact is an impact that could occur and/but the affected resource would recover completely without remedial or mitigating action. Text was revised to further differentiate the anticipated effects of HVAC (vs. HVDC) exposure.
BOEM-2022-0045-0110	24	BOEM has also stated that for each alternative, it plans to require Revolution Wind to employ micrositing of WTGs in the RWF to minimize impacts on large-grained complex and complex benthic habitats “to the greatest extent practicable.”116 While Alternative C would reduce impacts to complex benthic habitats, this alternative would still result in construction occurring in complex habitats in some areas and we agree that BOEM must, therefore, require micrositing for this alternative as well. To reduce impacts to complex habitats to the greatest extent possible, BOEM should require micrositing for whichever Alternative is ultimately selected.	Comment and recommendation noted. No change made in EIS.
BOEM-2022-0045-0086	24	Section 3.6 page 3.6-45 of the DEIS, the estimates for sediment heating presented in the DEIS (an increase of 10 to 20 degrees Celsius [°C] within 2 ft of the cable surface) are high and were apparently estimated without the inclusion of site-specific variables. Site-specific characteristics like the size of interstitial spaces, sediment grain size and percolation of water through the sediments can all contribute to the dispersion of any heat generated. Because of this, we would caution that these figures could overestimate heating at the site.	Text was revised to indicate that the estimates provided are conservative. As stated, even when the most extensive substrate heating effect is considered the impacts to invertebrates would be negligible.

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BOEM-2022-0045-0110	26	BOEM's proposed anchoring plan would require Revolution Wind to develop an anchoring plan to avoid or minimize adverse impacts during project construction and operations. The anchoring plan would delineate sensitive large-grained complex and complex habitats, as well as eelgrass and kelp beds, and identify areas where anchoring is restricted. Because the anchoring plan would help "minimize long-term impacts to large-grained complex and complex habitats, limiting the extent of long-term impacts on habitat forming invertebrates and benthic habitat structure," BOEM should require Revolution Wind to conduct such a plan.119	Comment and recommendation noted. As stated in Table 3.6-29, Revolution Wind has committed to develop an anchoring plan to avoid and minimize impacts to complex benthic habitats. BOEM would require Revolution Wind to develop and implement an anchoring plan as a condition of the project.
BOEM-2022-0045-0100	28	Global comment: The approach to the analysis does not allow for a meaningful evaluation between the project alternatives. This is particularly true for Alternative C would reduce impacts to benthic habitats by approximately one-third, and even further if combined with Alternative F; however that is not apparent or considered in your analysis. We disagree with BOEM's assessment that there is no difference in impacts to benthic habitats and invertebrates among the action alternatives.	Comment noted. Appendix E-4 of the EIS provides calculations of WTG numbers, footprint, and scour protection associated with Alternatives C through F. The EIS was updated to disclose the additional reduction of acreage for other action alternatives based on these calculations, as feasible by resource. Project design has not occurred for Alternative C, D, E or F; therefore, GIS calculations for the IAC, OSS-link cable, and RWEC are not available. In these cases, the EIS uses the Proposed Action as the most conservative proxy estimate and indicates that best professional judgment suggests that the footprint of the IAC, OSS-link cable, and RWEC would change and be slightly reduced to match the reduced number of WTGs under these two alternatives.
BOEM-2022-0045-0100	29	Global comment: We appreciate that additional literature and supporting information is included in the DEIS. We have provided some additional specific references that should be included in the DEIS in other comments within this section (see below). We also appreciate that the temporal impacts are defined in a manner consistent with our recommend timeframes. However, the provided analysis still relies heavily on perceived beneficial effects from the construction and installation of artificial structures and materials, as well as unsupported statements and conclusions. Please refer to our prior comments on other OSW NEPA documents to assist you in developing a more accurate analysis of the expected project impacts.	Comment noted.
BOEM-2022-0045-0100	30	Global comment: The impact analysis for this section still largely ignores the complex benthic habitats present in the lease area. The lease area overlaps with Cox Ledge and supports a highly complex mix of substrates, with more than half of the lease area supporting highly complex natural rocky habitats. The analysis minimizes adverse effects to these natural habitats and heavily relies on potential, perceived beneficial "reef effects" to balance/offset the extensive adverse impacts to important, highly complex natural rocky habitats that would occur under the proposed action. The Proposed Action analysis should include a reasonable analysis of the expected long-term and permanent effects to benthic habitats, in the context of Cox Ledge. This should include the potential *adverse* effects that may occur as a result of the expected artificial reef effects from the presence of structures within highly complex, natural rocky habitats that occur throughout the lease area. Given the expected long-term and permanent effects that would occur on a regional scale to the extensive complex habitats in this lease area on Cox Ledge; effects to benthic habitats should be classified as major adverse impacts, consistent with BOEM's significance criteria definition.	Comment noted. The analysis was refined to incorporate a more detailed characterization of impacts to complex benthic habitat. However, BOEM does not agree that those impacts would constitute permanent effects at a regional scale, as those impacts would affect a small percentage of available habitat and would recover with mitigation (i.e., decommissioning at end of project life). These conclusions are not consistent with a major impact per the DEIS criteria.
BOEM-2022-0045-0100	31	Global comment: Please check and clarify all presented calculated impact areas. The presented calculated areas in the tables and text do not align and it is not clear why. For example, the RWF calculation in Table 3.6-1 states the maximum work area is 58,143 acres, however this calculated area does not align with any of the disturbance areas presented in the analysis of project alternatives, or the sum of calculated maximum disturbance areas for the proposed action. Similarly, there are conflicting reported impacts to complex habitats. The proposed action is stated to result in 2,602 acres of large grained complex and complex habitats in the conclusion for the proposed action (page 3.6-36), however in the alternatives section is it stated that impacts from the proposed action are estimated to be 2,057 acres for large grained complex and complex habitats.	Comment noted. The maximum work area bounds the area where permitted project-related impacts may occur, not the anticipated extent of those impacts. Regarding the apparent discrepancy in impacts to complex habitats, the comparison provided in the alternatives section is limited to impacts resulting from RWF construction as RWEC impacts would be the same across all alternatives. All calculations were reviewed for consistency and text was revised for clarity, as appropriate.

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BOEM-2022-0045-0100	32	Global comment: The basis for the calculated impacts for the alternatives are unclear, particularly the percentages of habitat types that would be impacted. For example, Table 3.6-11 indicates that impacts for the "estimated maximum extent of seafloor disturbance" from the export cable, inter- array cable (IAC), and vessel anchoring for the two habitat alternatives would result in similar, or larger proportional impacts to complex habitats than the proposed action. This is inaccurate as this alternative considers removal of turbines and cables within complex habitats. Table 3.6-13 indicates that the viewshed alternative would result in proportionally less impacts to complex habitats than both the proposed action and habitat impact minimization alternative. This also appears inaccurate as the removal of turbines and the associated IAC and vessel anchoring impacts from predominantly soft- bottom impacts would not result in such substantial reduction in impacts to large-grained complex habitats (by nearly half) and complex habitats combined. The analysis appears to suggest the removal of turbines from areas supporting near-contiguous large-grained complex and complex habitats would not result in a substantial reduction in impacts to large-grained complex and complex habitats. It does not appear that the habitat types are being accurately considered in the evaluation of alternatives. In addition to verifying these calculations and clarifying the basis for the habitat impact calculations presented, we recommend the DEIS present impact calculations for each alternative (including the proposed action) and include impact calculations, with appropriate tables, specific to lease area impacts. This will provide clarity for the comparison of the proposed action and action alternatives.	The impact acreage for each alternative was calculated from GIS using benthic habitat and project configuration data layers provided by the applicant, impact radii and buffer widths for foundation and cable installation from the COP, respectively, and preliminary alternative configurations developed by BOEM. All calculations were reviewed for consistency and revised as needed to reflect refinement of the alternatives in the FEIS. As stated, each of the alternatives would reduce the total acres of impacts in complex habitat types compared to the proposed action. However, while the total impact footprint in those habitat types may decrease, the proportional distribution of impacts could increase as a percent of the total for some alternatives.
BOEM-2022-0045-0100	33	The geographic analysis area for Benthic Habitat should be revised. We appreciate the provided rationale on how the area was selected, however the rationale is not based upon either the expected extent of impacts or a resource-based region of interest. Rather, the rationale highlights that the area for analysis was based upon encapsulating all project components regardless of their connectivity or the exposure of the area to project impacts. In order to allow for a meaningful analysis of the proposed project impacts and evaluation of project alternatives, the geographic analysis area should be selected based upon the extent of potential project effects, including indirect effects, and may define the regional context of the selected analysis area. Please modify the geographic analysis area.	Comment noted. The geographic analysis areas presented in Appendix E of the DEIS are based on geographic distribution of organisms that could be affected by the cumulative effects of the Proposed Action and other proposed offshore wind projects on the Mid-Atlantic OCS. BOEM has reviewed the discussions of geographic area within the FEIS and deemed it appropriate for analysis. Consideration of benthic habitat function that extend beyond the GAA is provided in the Invertebrates (for habitat-forming organisms) and the EFH and Finfish sections of the DEIS. The EIS language was revised to clarify this point.
BOEM-2022-0045-0100	34	The No Action alternative relies on all other potential wind lease areas moving forward, except the proposed action. This only serves to dilute the analysis and evaluation of the proposed action. Further, the concluding effects determinations are not supported by the analysis provided. For example, it is stated that "vessel traffic, ...port expansion, and channel deepening activities; ongoing commercial fishing activities would contribute to ongoing adverse impacts on benthic habitat." However, there is no mention or analysis of such activities outside the conclusion statement. An analysis of each stated activity in the concluding significance determination should be provided. Additionally, it is stated that "BOEM anticipates that the planned and future offshore wind activities would have no effect on benthic habitat composition within the GAA for benthic habitat." It is unclear how BOEM is defining "benthic habitat composition," and we consider it unreasonable to determine that other planned OSW activities would not affect benthic habitats within the GAA as currently defined. Multiple other projects are proposed within the RI/MA WEA that are likely to have not only overlapping effects within the Revolution Wind lease area and cable corridor, but also within the broader defined GAA. The effects determination for the "No Action" alternative should be revised to include an evaluation of all activities discussed in the conclusions and to provide appropriate justification for all determinations presented.	Thank you for your comment. Vessel Traffic and Ports (and associated ancillary activities) for ongoing activities under all Alternatives are discussed in Appendix E (Planned Activities Scenario). In this Appendix, port expansion or channel deepening activities are analyzed under Dredging and Port Improvement Projects. In addition BOEM is coordinating with the interagency team, specifically USACE and USCG, which monitors and permits those activities. Components of commercial fishing are broken down into their impact producing factors described under bycatch and presence of structures: entanglement, gear loss, gear damage.
BOEM-2022-0045-0100	35	Figure 3.6-2 illustrates habitat delineations and large surficial boulders. However, the large-grained boulder delineations are overlapping the surficial boulder points, obscuring the view of large boulders within this habitat category delineation. The figure should be revised to include the surficial boulders as the top layer in the figure so the full extent of boulders in the lease area is visible.	Revised figures showing boulder features have been developed and are incorporated in Section 3.6.2.2.
BOEM-2022-0045-0100	36	The geographic analysis area for Invertebrates includes the entire OCS south to Cape Hatteras, NC. This is not a reasonable analysis area to evaluate the project as it only serves to dilute the effects of the project specific impacts to invertebrates. A more reasonable geographic analysis area, that allows for a meaningful evaluation of the proposed action and proposed alternatives, should be selected.	The geographic analysis areas presented in the DEIS are based on geographic distribution of organisms that could be affected by the cumulative effects of the Proposed Action and other proposed offshore wind projects on the Mid-Atlantic OCS. BOEM has reviewed the discussions of geographic area within the FEIS and deemed it appropriate for analysis.

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BOEM-2022-0045-0100	37	Similar to the comment on Benthic Habitat, the No Action alternative for Invertebrates focuses on the planned development of all other wind lease areas with some analysis provided for potential climate change effects. We understand that BOEM is coordinating with the agencies to address No Action scenario concerns. However, the conclusion states "moderate" adverse impacts would occur from "reasonably foreseeable activities other than offshore wind" but the listed activities are not discussed or addressed in the analysis. Further, it is stated that all other foreseeable offshore wind development would similarly result in "moderate" adverse impacts, as well as "moderate beneficial impacts." The provided impact assessments and rationale do not include support for these impact determinations. The No Action alternative should be modified to allow a meaningful evaluation of the No Action alternative, inclusive of a scientifically supported analysis for all activities listed in the concluding effects determination.	The conclusion of both adverse and potential beneficial impacts is based on the understanding that habitat conversion effects resulting from project construction and the presence of structures will benefit some finfish and EFH species at the expense of others depending on their habitat preferences. The best available science indicates that reef effects resulting from the presence of structures clearly benefits some fish and invertebrate species that associate with hard substrates and/or vertical structures in the water column. Related reef effects on food web productivity and changes in predator prey relationships are also likely to benefit some species at the expense of others, but the specific nature of these effects is difficult to predict with certainty. These complex effects will interact with changes in commercial and recreational fishing and other activities, also likely resulting in additional effects that are difficult to predict. These uncertainties are acknowledged in the EIS. The FEIS has been revised to clarify these points and the basis for conclusions where appropriate.
BOEM-2022-0045-0100	38	Please include the best available science for the analysis of noise impacts. This includes: Sole et al. 2022; Jezequel et al. 2022; van der Knapp et al. 2022; Siddagangaiah et al. 2022	Thank you for directing us to these references. Solé et al. 2022 and Jézéquel et al. 2022 have been incorporated into the invertebrates impact analysis. Van der Knapp et al. 2022 and Siddagangaiah et al. 2022 address effects on finfish and have been incorporated into Chapter 3.13.
BOEM-2022-0045-0100	39	If sound data from Block Island Wind Farm are used in the analysis, please provide a comparison of specifications of BIWF turbines with those planned for Revolution Wind.	Insufficient information is available to estimate operational noise levels from the larger WTG designs proposed for Revolution Wind. Modeling suggests that operational noise could approach levels associated with sensory injury in certain cephalopod species in recent research. However, the available information about operational noise levels is insufficient to draw this conclusion. In the interest of precaution, the effect determination for invertebrates has been revised to negligible to minor to reflect this understanding. The narrative and effect determinations for invertebrates have been revised, with appropriate caveats, to clarify this point.
BOEM-2022-0045-0100	40	Non-native species have been observed on offshore wind structures throughout Europe and at Block Island. Please integrate the best available science into the analysis of non-natives and characterize the potential for structures to facilitate the establishment and range expansion of non-native species.	Information on non-natives was incorporated.
BOEM-2022-0045-0100	41	The characterization of hydrodynamic effects relies entirely on Johnson et al. 2021, a BOEM report that did not undergo traditional peer-review. There is a growing body of scientific knowledge on wind wake effects and their potential impacts. Please include the best available science in this analysis. This includes the following: Christiansen et al. 2022; Dorrell et al. 2022; Daewel et al. 2022; Raghukumar et al. 2022; Floeter et al. 2022; Chen et al. 2021;	Thank you for directing us to these references. The hydrodynamic effects analysis considers sources other than Johnson et al. 2021, references were revised accordingly.
BOEM-2022-0045-0100	72	In Table 3.9-24, under Noise, please note that some species may experience mortality at close range to construction noise or due to long-term operational noise and vibrations that may cause shellfish to close their shells and reduce respiration and feeding.	EIS analysis has been revised to incorporate current science on invertebrate sensitivity to noise.
BOEM-2022-0045-0086	72	Page 3.6-29, Table 3.6-4: Regarding the percentage split for the OSS link: there should not be any large-grained complex, while the DEIS lists 12%. The percentages listed should be 0%, 22%, and 78%. The maximum bed disturbance footprint does not equal the sum from the values in this table. The sum across all rows would be 6,631, and not 6,615. The percentage values appear to be averages, and as noted above, the OSS is incorrect in the rows.	Based on the OSS-link shapefile, the 40 m wide disturbance corridor around the cable route overlaps the stated percentage of habitats classified as large-grained complex. The 5,247 acre impact footprint total includes overlapping anchoring impacts. For example, jackup vessel anchoring is expected to occur in areas previously disturbed by seabed preparation and/or general vessel anchoring impacts. Similarly, general anchoring impacts are expected to overlap areas previous impacted by seabed preparation. Table footnotes were revised to clarify.

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BOEM-2022-0045-0086	73	Page 3.6-30, Section 3.6.2.2.1: The statement: "Vessel and pull-ahead anchoring would impact an additional estimated 3,178 acres of seafloor" is not accurate, and the number does not match the DEIS table or provided data. The total area in which permanent and temporary impacts related to foundation installation would occur is 3,172 acres, but actual temporary and permanent impacts are estimated at 834 acres.	Quantities were reviewed and corrected. The total anchoring impact area is 3,179 acres, which reflects the area of potential anchoring impacts that could occur within the 200-meter impact radius around each foundation (3,163 acres), jack up vessel anchoring (21.1 acres, completely overlapped by the general anchoring area), and pull-ahead anchoring (16.1 acres, as calculated by the lessee). As stated, anchoring impacts in soft-bottomed habitats would be short-term in duration. Anchoring in complex habitats could have long-term to permanent impacts, although the anchoring plan would reduce those impacts by an as yet an unspecified amount. The text has been revised to clarify these points.
BOEM-2022-0045-0086	74	Page 3.6-31, Section 3.6.2.2.1: Revolution Wind would like clarification on where the following numbers originated: seafloor preparation, specifically boulder relocation and sandwave leveling, and cable installation activities would impact approximately 158 and 743 acres of large-grained complex and complex habitat, respectively, and 2,375 acres of soft-bottom habitat within the RWF and RWEC construction footprints.	The acreage totals were calculated from total cable length using the estimated percentage of each cable route requiring boulder clearance and cable protection as presented in the COP. These percentages were assumed not to overlap, and were apportioned to soft bottomed and complex habitats, respectively. Based on new information provided by Revolution Wind in January 2023, the impact acreages presented in the FEIS were revised to reflect the lessee's determination that sandwave leveling and dredging will not be required for cable installation. Impact acreages were calculated from the affected cable lengths using a 23m average disturbance corridor widths for boulder relocation (provided by lessee in January 2023) and a 12m disturbance corridor width for cable protection as presented in the COP.
BOEM-2022-0045-0086	75	Page 3.6-33, Section 3.6.2.2: Please confirm the values used in the text. Several of the values presented do not match the benthic habitat report submitted as an appendix to the Revolution Wind COP.	Values were calculated from GIS benthic habitat data provided by Inspire. Foundation locations and cable corridors were buffered using the disturbance radii and widths presented for each feature in the COP, respectively, to determine the impact area by habitat type. We are not clear which values in the benthic habitat mapping report the commenter is referring to.
BOEM-2022-0045-0086	76	Page 3.6-36, Section 3.6.2.2.4: Please clarify the values used to determine the acreage featured in the following sentence: "Long-term to permanent habitat disturbance effects on 2,602 acres of large-grained complex and complex habitats would constitute a moderate adverse effect on benthic habitat."	Please see the response to FDMS Submission # BOEM-2022-0045-0086, comment # 75. The total combines the estimated footprint affected by the presence of structures, scour, and cable protection, and the estimated area exposed to long-term impacts from boulder clearance and anchoring activities in large-grained complex and complex habitats across the RWF and RWEC.
BOEM-2022-0045-0086	77	Page 3.6-54, Section 3.6.2.4.1: Please clarify the method(s) used to calculate the values shown in the following: "For example, Alternative C emphasizes avoiding and minimizing impacts to complex benthic habitat and reducing the overall impact footprint. This alternative would reduce benthic habitat impacts from 6,615 acres to 4,374 to 4,440 acres, depending on the configuration selected. Impacts to large-grained complex and complex benthic habitat would decrease from an estimated 2,057 acres to 1,443 to 1,469 acres, depending on configuration. Impacts to these habitat types would be long term to permanent in duration. The proposed configurations of Alternative E would produce a similar reduction in impacts to large-grained complex and complex benthic habitat to 1,223 to 1,461 acres, depending on configuration".	Please see the response to FDMS Submission # BOEM-2022-0045-0086, comments 75 and 76. Values have been checked and revised as appropriate.
BOEM-2022-0045-0086	78	Page 3.6-55, Table 3.6-11: Please clarify the methods used to derive the numbers in Table 3.6- 11. For example, the maximum acres for the Proposed Action given, 6,615 acres, is the same as in the last row of Table 3.6-4, however, the percent values are different.	Please see the response to FDMS Submission # BOEM-2022-0045-0086, comment 75. Values have been reviewed for consistency and revised as appropriate.
BOEM-2022-0045-0086	79	Page 3.6-57, Table 3.6-14 and Table 3.6-16: Please cite if BOEM conducted its own GIS analysis for the alternatives or clarify apparent discrepancies in values presented versus those provided.	Please see response to FDMS Submission # BOEM-2022-0045-0086, comment 75. As stated, the totals presented in the DEIS reflect BOEM's best estimate of overlapping impacts. This accounts for the discrepancies identified by the commenter. Text will be revised to clarify. Values have been checked and revised as appropriate.
BOEM-2022-0045-0086	80	Page 3.6-59, Table 3.6-17: The footnote indicates that all cable protection will be placed in complex habitat. More cable protection will likely be placed in complex habitat, but that is not known at this stage and is an inaccurate statement.	Text was revised to clarify likelihood vs. certainty.

Birds

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BOEM-2022-0045-0064	2	2. Adverse Impacts to the Character of the Norman Bird Sanctuary In addition to the adverse visual impacts, the Project will likely have adverse impacts to avian species and other migratory species (bats and butterflies) that may impact the character of the setting as a bird sanctuary and an historic farm that has a long history of supporting these species. The description of Paradise Farm in the historic listing includes the following analysis of the importance of being a sanctuary to the character of this historic property: Combining her Colonial Revival impulses with a love of bird life, Mabel Norman had expressed interest in the mechanics of establishing a bird sanctuary by late 1914.27 (See correspondence dated 9 November 1914 from Henry S. Thompson of Boston to Mabel Cerio. This letter is framed and on display in the Studio building at Norman Bird Sanctuary). Clarke and Howe's early sketches of the transformation of the property included both a "bird room" and a "winter bird room" in the first floor plan. This lifelong ornithological passion eventually took legal form in Mabel Norman Cerio's will, the central provision of which was the establishment, continuance, upkeep, maintenance and development of [a] bird sanctuary on my farm known as "Paradise Farm"…for the propagation, preservation, and protection of birds, and where birds and bird life may be observed, studied, taught and enjoyed by lovers of nature and by the public generally so interested in a "spirit of humanity and mercy." Although biographical material on George Norman does not suggest any strong interest in nature, his youngest daughter Mabel (1875-1949) appears to have had a naturalist's inclination since childhood. On the death of George Norman in 1900, ownership of SmithGardiner-Norman Farm passed to his children. Mabel, unmarried and in her early thirties, purchased the property from her siblings in 1908, around the time of the death of her brother, George H. Norman, Jr. Correspondence and clippings in the Mabel Norman Cerio (MNC) collection at Newport Historical Society provide evidence that Mabel, a lifelong member of the Audubon Society, had expressed interest in the establishment of a nature preserve or bird sanctuary early in her sole ownership of the farm.22 (See 1918 Boston-area newspaper clippings in the Mabel Norman Cerio collection: "Sanctuaries vital in conserving game birds," and "Peril of Bird Slaughter.") Norman Bird Sanctuary is the proud steward of the legacy established by our founder Mabel Norman Cerio. In fact, we have expanded the property to include 300 acres of preserved lands and have ongoing educational programs that are designed to promote the protection of bird and other species. In her will, Mrs. Cerio suggested that her trustees create an advisory association to assist with the carrying out of her wishes for the Norman Bird Sanctuary. Very shortly after the probating of her estate, the trustees, authorized the formation of a group of individuals knowledgeable about wildlife habitats and wildlife, especially birds, to carry out her wishes that the property be preserved "as a bird sanctuary for the protection of animals and birds and for the enjoyment of lovers of nature and the public generally". Beginning in 1950, that group began in the role foreseen by Mrs. Cerio. As the environmental and historic importance of the Norman Bird Sanctuary grew during the following decades, so too did the environmental and educational programming offered by the organization to its members and friends and to the public at large. From its earliest days, Norman Bird Sanctuary organized biweekly bird walks, created a network of trails, managed the habitats on the property for the benefit of wildlife and organized and conducted informal educational opportunities. The organization developed successful summer camp program for children ranging in age from toddlers through high school students. Throughout the 1970s, there was a bird banding program conducted at the Sanctuary. Beginning in the 1980s and continuing through the present, trails were improved for safety but retained their nature in keeping with a farmscape and wild habitats. In addition to the tradition of the biweekly bird walks, programs are offered on a weekly basis on topics including pollinator plants, mushrooms, raptors, the engaging woodcock, owls, newer residents including coyotes and white-tailed deer, as well as longtime residents like skunk and red fox. Lastly, weekly walks are open to the public at large on a variety of topics free of charge. In addition, we have hired staff and developed programs to scientifically examine the status and trends of birds and other species that frequent the property. As an example, we partner with the Cornell Lab of Ornithology as an official chapter of their NestWatch program – a citizen science nest monitoring project to track success of cavity nesting birds. We aim to provide increased nesting habitat for resident cavity nesters and increase the success of native birds over invasive birds. For the last 25 years we have conducted a bird box monitoring program on our grassland habitat. We presently install 300 boxes in advance of nesting season. This figure represents the second highest concentration of nesting boxes in the entire United States. The Eastern Bluebird is the target species for the official NestWatch program, but this is a rare bird on Aquidneck Island and even rarer in our nesting boxes, so we have shifted our focus to the Tree Swallow. The Tree Swallow is a native insectivore and the most common nester found in the boxes at the Norman Bird Sanctuary. Both this and the less common House Wren are native	BOEM has found an adverse effect from visual and cumulative impacts to the Paradise Rock Historic District, which contains the Paradise Farm. However, the Draft EIS finds no adverse effects to Paradise Farm (also known as the Smith-Gardiner-Norman Farm Historic District) as an historic property from visual or cumulative impacts. Paradise Farm is among the 350 aboveground historic properties, or NRHP-eligible viewshed resources, that would experience negligible to minor visual impacts not rising to the level of adverse effects under the criteria of NHPA Section 106 (see EIS Section 3.10.2.4). The Finding in EIS Appendix J further reiterates this: "Although the HRVEA identified 350 other above ground historic properties on mainland RI and MA within the visual APE of offshore Project components, BOEM has determined that either no effects or no adverse effects would result at these historic properties, based on the justifications provided in the HRVEA (see EDR 2022a:Attachment A)." The Smith-Gardiner-Norman Farm Historic District is specifically reviewed in the HRVEA, which is referenced in the EIS.

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		birds and beneficial to the health of the ecosystem. The House Sparrow is the other species found in the boxes here, but as an invasive species, it is less desirable and management techniques are taken to limit their numbers in favor of supporting other more desirable species. The data we collect is shared with the Cornell Lab of Ornithology's NestWatch program, as well as analyzed internally to help inform future management decisions. The adverse impacts to the character of Norman Bird Sanctuary as a nature preserve are difficult to quantify. We understand from the DEIS that Revolution Wind will be required to complete a series of studies to minimize and mitigate the adverse impacts to birds and other migratory species (see Revolution Wind's Avian and Bat Post-Construction Monitoring Framework). However, we maintain that these studies will not provide a mechanism to examine the specific impacts to Norman Bird Sanctuary. Accordingly, the proposed mitigation measures below are provided as a mechanism to mitigate any potential impact.	
BOEM-2022-0045-0086	16	In Table 2.3-1 on page 2-65, the DEIS indicates a "minor adverse" impact determination on birds from the Proposed Action. However, on page 3.7-32 of Appendix E2, the DEIS also indicates that impacts "would range from temporary to long term negligible to minor adverse", and thus it seems that BOEM has selected the more conservative impact determination from the range specified without explaining its reasoning. The impact determination of "minor adverse" on birds also contradicts the impact determination of the Proposed Action in the South Fork Wind Final EIS, which was specified as "negligible to minor". Given that South Fork Wind is situated within the proposed Revolution Wind project area, it is unclear why the impact determinations would be different between the two projects. Thus, it seems that the impact determination of the Proposed Action in the Revolution Wind DEIS should amended to "negligible to minor adverse".	BOEM decided that a single impact determination be used for overall impacts rather than a range. Thus, the more conservative impact determination was chosen.
BOEM-2022-0045-0086	17	On pages. 3.5-21 and 3.7-32 of the Appendix E2, the DEIS indicates that "conducting marine construction activities during approved in-water work windows, which would be developed in consultation with NMFS and USFWS", would be used as a mitigation measure to minimize impacts to birds and bats. However, impacts from construction activities are generally considered negligible for both birds and bats, and offshore occurrence patterns vary across bird and bat species. As such, it is unclear how a time-of-year restriction on offshore construction activities would help to reduce impacts to birds and bats. Thus, Revolution Wind respectfully requests that the DEIS be amended to remove this proposed mitigation measure.	Measure removed from Table F-2 and Section 3.7.2.6 Mitigation.
BOEM-2022-0045-0086	18	There is little discussion of collision risk to birds from turbines under the "presence of structures" IPF sections, including Section 3.7.1.1, Table 3.7-2, and Section 3.7.2.2.2. The discussions are more focused on displacement risk than collision risk and the level of detail is not consistent with similar sections in the Vineyard Wind 1 FEIS and the Ocean Wind DEIS. The DEIS references BRI's Construction and Operation Plan (COP) Appendix AA and its collision vulnerability assessments, but the impact determination for turbines is only for long-term displacement impacts from turbines, not collision impacts. Also, in the row for "presence of structures" in Table 3.7-2, there is no mention of potential impacts from collision with structures, only collision risk during construction and long-term displacement from turbines. Revolution Wind respectfully requests that the text in Sections 3.7.1.1 and 3.7.2.2.2 include a more substantial discussion around collision risk to justify the determination of negligible to minor impact determination for the "presence of structures" Impact Producing Factor (IPF) and that Table 3.7-2 include collision risk as an impact type in the Alternative B cell.	Additional discussions regarding collision risk has been added to Table 3.7-1. Section 3.7.2.2.2 has an in-depth discussion of collision risk in terms of cumulative impacts to avian resources.
BOEM-2022-0045-0086	19	The Avian and Bat Post-Construction Monitoring (PCM) plan referenced in Appendix F, Table F-1 on pg. F-3 and as included in Appendix G on pgs. G-2-7 does not match the PCM plan in the Avian and Bat Technical Report (Appendix AA) developed by BRI for the Revolution Wind COP. This is likely due to recent updates to the PCM plan in the COP that were not incorporated in the version referenced for the DEIS. As such, there are a couple of omissions in the DEIS PCM plan (bold text was omitted). First, on pg. G-3, "Revolution Wind has developed this Framework to outline an approach to post-construction monitoring that supports advancement of the understanding of bird and bat interactions with offshore wind farms, and other areas of uncertainty, such as the potential influence of weather conditions." Second, on pg. G- 7, "Revolution Wind would participate in an annual meeting with BOEM and USFWS to discuss the report. Data from these monitoring studies will ultimately be submitted to relevant regional databases and archives (e.g., NABat), as feasible and appropriate." Revolution Wind respectfully requests that the bolded text referenced above be included in the PCM plan in the Final EIS.	Suggested text has been added to the EIS where indicated.
BOEM-2022-0045-0086	20	Draft EIS Appendix E2, Section 3.7.2.4, page 3.7-32 and Appendix F, Table F-2, p. F-17 includes a BOEM-proposed Bird and Bat Mitigation Measures (#2) that states "Install bird deterrent devices to minimize bird attraction to operating turbines and on the OSS, where appropriate and where Revolution Wind determines such devices can be safely deployed. The Lessor must concur with proposed locations. Revolution Wind must confirm location(s) of bird deterrent devices as part of the as-built	Clarification made in Section 3.7.2.6 and Appendix F.

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		documentation submitted with the facility installation report." Consistent with industry best practice, Revolution Wind will install bird perching deterrent devices (e.g., spikes or similar) in areas where perching may create a health and safety risk for workers and where such devices can be safely deployed. Revolution Wind is not considering other methods of deterrence, such as visual, auditory, or frightening device systems at this time because they are highly susceptible to habituation by birds, do not have well established efficacy, and are impractical for deployment offshore16. Revolution Wind respectfully requests that BOEM clarify the wording of Bird and Bat Mitigation Measures #2 to specify "bird perching deterrent devices" or "anti-perching devices."	
BOEM-2022-0045-0086	21	Draft EIS Appendix E2, Section 3.7.2.4, p. 3.7-32 and Appendix F, Table F-2, p. F-17 include a BOEM proposed Bird and Bat Mitigation Measure (#3) that states "Conduct marine construction activities during approved in-water work windows developed in consultation with the Services." Revolution Wind has proposed Time of Year (TOY) restrictions for birds and bats, listed in Table F-1 (Bird-1 and Bat-2). Neither the analysis in the Draft EIS analysis nor BOEM's Biological Assessment suggest that additional marine construction TOY restrictions specific to birds or bats are warranted for in-water construction activities; further, this measure as written does not specify species, dates, or geographies (nearshore versus offshore). Revolution Wind requests that BOEM remove or clarify the intent of this proposed mitigation measure.	Mitigation measure was removed as suggested.
BOEM-2022-0045-0110	61	While we appreciate that Revolution Wind is sited well beyond the densest, highest concentrations of seabirds found in the near-coastal zones located to the north and the east,221 we are concerned that the DEIS and the COP fall short of properly addressing all key potential impacts to birds from the Project. The Final EIS must better address population-level, cumulative impacts to avian populations from developing Revolution Wind and other areas in the Atlantic OCS expected to be developed in the reasonably foreseeable future. In doing so, BOEM must consider impacts to a broad range of avian species which may be impacted by Revolution Wind, and not limit evaluation to federally listed species alone.	Table 3-1 in Appendix AA of the COP considers a broad group of avian species (56) and Table 3.7-1 in the EIS considers 46 species of Atlantic seabirds from different taxonomic groups that may be present or pass through the Lease Area based on OSAMP (ocean sampling) aerial and/or boat-based surveys, and cross-referenced with USFWS IPaC (information for planning and consulting) database that includes listed and non-listed bird species. Potentially occurring federally-listed species - Piping Plover (Charadrius melodus), Red Knot (Calidris canutus rufa), and Roseate Tern (Sterna dougallii) - are addressed in Section 3.1 of COP Appendix AA, in Section 3.7.1 of the EIS, and in the Biological Assessment that is available on BOEM's website.
BOEM-2022-0045-0110	62	Recognizing that much remains unknown regarding the impacts of offshore wind to avian species in the United States, especially for the poorly studied procellariform seabirds, BOEM's evaluation of Revolution Wind in the Final EIS must incorporate a robust monitoring and adaptive management plan. This plan must include a commitment to sufficient standardized monitoring and using advanced technology as it is developed to adequately evaluate full impacts of the Project. It must also explicitly outline a strategy to employ adequate mitigation measures, based on the impacts observed during monitoring. By including requirements for adaptive management, the FEIS can account for the reasonably foreseeable impacts and commit the developer to addressing those impacts. Further, BOEM should incorporate best monitoring and management practices into a regional adaptive management plan to adequately measure and mitigate cumulative impacts to all birds from offshore wind developments expected across the Atlantic OCS for the reasonably foreseeable future. An overview of monitoring needs and recommended mitigation measures for birds (and bats) can be found in Attachment 3.	BOEM funds scientific studies and partners with the USFWS to better understand how migratory birds use the Atlantic OCS and to refine the understanding of the risks from development to migratory species. Data collected from regional projects and continued coordination with USFWS and other agencies is used to develop adaptive management protocols. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	63	BOEM must ensure that the FEIS considers of the full range of potential impacts on bird species known to use the Project Area and its surroundings (including for foraging, resting, or migration), in particular those covered by the Migratory Bird Treaty Act (MBTA), the ESA, Rhode Island's, Connecticut's, and Massachusetts's endangered species laws, and other BOEM conservation obligations, as well as those prioritized by avian expert partners. These conservation obligations are further detailed in Attachment 3. At a minimum, the FEIS should include analysis of the following priority species for fulfilling BOEM's conservation obligations: American Oystercatcher, American Golden Plover, Hudsonian Godwit, Marbled Godwit, Buff-breasted Sandpiper, Pectoral Sandpiper, Short-billed Dowitcher, Lesser Yellowlegs, Willet, Least Tern, Black Tern, Black Skimmer, Cory's Shearwater, Manx Shearwater, and Audubon's Shearwater, which are each designated as USFWS Birds of Conservation Concern in the Continental USA222 under the Fish & Wildlife Conservation Act, 1988 amendment. Moreover, these and even more species (128 in total) are documented as using and/or flying marine waters associated with the Cox Ledge.223 Long-tailed Duck, Horned Grebe, Atlantic Puffin, Black-legged Kittiwake, Leach's Storm-petrel, and Chimney Swift, which are classified by the International Union for Conservation of Nature (IUCN) as Vulnerable. Red Knot, Semipalmated Sandpiper, and Buff-breasted Sandpiper, which are among the species classified by the Convention on Migratory Species (CMS, or Bonn Convention) as Endangered. Three Endangered Species Act (ESA) listed bird species that are present in or near the Lease Area: Piping Plover, Red Knot, and Roseate Tern.	There are approximately 177 bird species that use the Atlantic OSC for one reason or another. Potentially vulnerable populations to offshore wind development on the Atlantic OCS were identified in Willmott et al 2013 and were considered in developing the potentially vulnerable species presented in Table 3-1 of COP Appendix AA. Potentially occurring federally-listed species - Piping Plover (Charadrius melodus), Red Knot (Calidris canutus rufa), and Roseate Tern (Sterna dougallii) - are addressed in Section 3.1 of COP Appendix AA, in Section 3.7.1 of the EIS, and in the BA.

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BOEM-2022-0045-0110	64	Further, the FEIS should include analysis of the following trans-Atlantic migrating birds that have documented routes through the Atlantic OCS WEAs, and should therefore be prioritized for analysis of impacts to nocturnal migrants (these are in addition to the American Golden-Plover, Buff-breasted Sandpiper, Chimney Swift, Pectoral Sandpiper, and Semipalmated Sandpiper, which were mentioned above):224 ● Bicknell's Thrush ● Blackpoll Warbler ● Bobolink ● Connecticut Warbler ● Solitary Sandpiper ● Upland Sandpiper ● Whimbrel ● White-rumped Sandpiper ● Ipswich Sparrow	There are approximately 177 bird species that use the Atlantic OSC for one reason or another. Potentially vulnerable populations to offshore wind development on the Atlantic OCS were identified in Willmott et al 2013 and those identified includes nocturnal migrants like the species listed by the commentor. Although their precise migratory routes are at best crudely known, these and other nocturnal migrants are exposed offshore environment only for a short period of time during migration. Studies (e.g., Normandeau Associates, Inc. 2014) on the Atlantic offshore found that nocturnal migrants typically fly when wind speeds are below cut in speeds for the turbines. Additional language has been added in Section 3.7.2.2.2 of the EIS to describe migration during inclement weather and reduced visibility as it relates to the RSZ.
BOEM-2022-0045-0110	65	We note below that in evaluating the range of potential impacts from Revolution Wind, the COP for the Project relied on a range of primary and transparent sources,226 but did not include data from eBird; this should be incorporated into the FEIS analysis. BOEM should consult information from the Cox Ledge eBird hotspot, as almost 130 total bird species have been recorded in the area.	The eBird database includes incidental public observations. BOEM regularly uses information from eBird to support its analyses for onshore activities, however, offshore observations have proven to be unreliable. There are cases where all observations from a pelagic trip (including those made in the harbor) are recorded at a single point in the ocean and/or every birder on the boat submits their own report thus inflating the number of observations, etc. Due to these and other "irregularities", BOEM currently relies on bird observations made during scientific ocean surveys.
BOEM-2022-0045-0110	66	The COP does not adequately address species-specific impacts to ESA-listed species or those species vulnerable to impacts, which are protected under the MBTA. The FEIS must not rely on the COP for its evaluation of impacts and must evaluate the cumulative, species-specific impacts in a manner that is appropriate for each species' ecology.	Species-specific impacts to Endangered Species Act (ESA)-listed species are discussed in Sections 3.7.1 and 3.7.2.3.2 of the EIS and in the project Biological Assessment (BA) available on BOEM's website. The EIS incorporates the evaluation of impacts in the COP and supplements that evaluation with additional data sources.
BOEM-2022-0045-0110	67	In particular, the COP fails to address impacts to Piping Plover from onshore activities. The species is completely excluded from both the federal evaluation and evaluation of state vulnerable species. Piping Plover and Least Tern have historically nested on Quonset Point in Rhode Island. Piping Plover were also documented nesting in this area 2020 and again in 2021.228 While the current nesting location may not fall within the construction envelope, the species' continued presence on Quonset Point (the site of the Revolution Wind cable landing), warrants an evaluation of potential impacts to this species. In addition to potential onshore impacts to Piping Plover, nocturnal oceanic migration for the ESA-listed Piping Plover is not a rare event. Remote tracking studies that rely on the Motus passive very high frequency (VHF) radio tracking system reveal that Piping Plovers migrate nocturnally over open water, "directly across the mid-Atlantic Bight, from breeding areas in southern New England to stopover sites spanning from New York to North Carolina...at altitudes of 288 m (range of model uncertainty: 36-1,031m),"229 putting this ESA-listed species at high risk of collision with turbines, should their path cross through Revolution Wind.	Thank you for the information. The citation provided does not support nesting on Quonset Point; however the Biological Assessment (BA) Section 3.1.1 does acknowledge one pair that nests in a restricted area of the Quonset Airport, adjacent to the sea-to-shore transition (Loring pers. comm. 2022). Impacts to piping plovers are addressed in Section 4.1 of the BA and summarized in the EIS in Sections 3.71 and 3.7.2.2.2. The BA contemplated onshore impacts to piping plover but determined that impacts would not occur due to known species nesting range.
BOEM-2022-0045-0110	68	Additionally, the core of the federally endangered Roseate Tern's breeding range overlaps with Revolution Wind,230 and therefore a conservative approach for this species must be required by the Final EIS. Adults and sub-adults may occur in the Project Area in the spring and summer to forage, while individuals of all ages likely cross the Project Area in the late summer and fall to reach their staging grounds on Cape Cod. Roseate Tern use of this area, and other wind development projects in the Atlantic OCS, should be a priority in pre- and post-construction monitoring so that true impacts to the population from collision and displacement can be properly measured and compensated. The primary breeding islands and staging areas for Roseate Tern along the U.S. Atlantic seaboard are just to the north and south of the Revolution Wind Project area,231 so adults and sub-adults may occur in the project area during spring and autumn migration. Indeed, a recent nanotag tracking study232 indicated that eight (of 90 total, or 9%) of the tracked Roseate Terns passed through the northern portion of the Revolution Wind Lease Area. Determining Roseate Tern habitat use across all wind development projects in the Atlantic OCS should be a priority for post-construction monitoring so that any cumulative impacts to their population from collision and displacement can be properly measured and compensated.	Thank you for the comment. Impacts to roseate terns are addressed in Sections 3.1.2 and 4.1 of the Biological Assessment (BA) (BOEM 2022) and summarized in the FEIS in Sections 3.71 and 3.7.2.2.2.

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BOEM-2022-0045-0110	69	The COP uses the Marine-life Data and Analysis Team (MDAT) and Rhode Island Ocean Special Area Management Plan (OSAMP) surveys results to evaluate the total proportion of avian populations impacted by Revolution Wind. This is inappropriate for several reasons. For one, the MDAT projections are rough estimates of relative density in the Atlantic OCS--as discussed further below, they are not intended to assess avian habitat use at the project scale and they cannot be interpreted as population proportions. The OSAMP surveys provide a higher resolution picture of relative density, but these are also inappropriate to interpret as population proportions. The MDAT predictive models, while excellent for estimating broad-scale, relative patterns of avian abundance along the Atlantic, are not of suitable resolution for reliably estimating distribution at a local scale. These models are wholly inappropriate for use in impact assessments and should only be used for broad scale planning purposes (such as determining Call Areas).	The NEPA analysis uses the best available data for assessing potential impacts to species. Marine-life Data and Analysis Team (MDAT) data was supplemented with (and is informed by) survey data, which BOEM determined is sufficient to assess impacts to avian species.
BOEM-2022-0045-0110	70	Radio and satellite telemetry and radar monitoring methods should be employed to evaluate risks to species which are likely to use the Revolution Wind area for migration. Many species use Block Island and the southern New England coast during migration; these interactions may be fleeting and would not be adequately captured using transect survey methods. Therefore, any transect surveys are likely to underestimate the impacts to these populations. Instead, Satellite telemetry technology, supplemented with pressure sensors, should be prioritized for surveying large-bodied birds, as this is the best method for gathering fine scale movement data and flight altitude. The COP has included some satellite telemetry raw data for raptors. However, this information is available for other taxa as well and should be incorporated. Radio telemetry is appropriate for smaller bodied birds, including songbirds; however, the network of receiving stations in the offshore will need to be expanded significantly to evaluate the level of interaction between birds and Revolution Wind. The current array of telemetry receiving stations are not far enough offshore to track avian use of the offshore Project Area.233 Additionally, tagged Roseate Terns were limited to breeding individuals which may result in an underestimation of Roseate Terns' use of the offshore Project Area. Breeding individuals forage closer to shore, as they are tied to nesting locations. However, in April and May, breeding age terns have returned to New England, but have not yet begun egg laying, and therefore spend a great proportion of time over water and potentially further offshore. Non-breeding subadult individuals will also return to the region and are similarly unencumbered by nests or chicks. We recommend that the Final EIS include both an evaluation of all relevant telemetry and radar data available for birds which may enter the Revolution Wind area (on and offshore) and expanded monitoring requirements to evaluate impacts from Revolution Wind. BOEM should also support further telemetry studies that incorporate these other life stages, time periods, and appropriate geographic scope, and incorporate these results in project analysis and future project impact evaluations.	The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and as an attachment to COP Appendix AA, which are publicly available on BOEM's website. Due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project. If there is a need identified by USFWS, and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	71	We also encourage the use of marine radar methods to document trends in avian movements within and around Revolution Wind. Despite the high value of telemetry technology to document changes in migratory routes and species distributions, the application of telemetry technology is generally limited in the number of species and sample sizes included. Marine radar can supplement telemetry data to better document the quantity and timing of birds flying through the Revolution Wind area. This is particularly valuable for understanding impacts to nocturnal migrants. We are pleased to see marine radar contemplated for monitoring nocturnal migrants flux and flight heights as well as marine bird avoidance234 and ask that BOEM and the developer provide additional details on their monitoring plans.	The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and as an attachment to COP Appendix AA, which are publicly available on BOEM's website. Due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project. If there is a need identified by USFWS, and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF". Since radar approaches to monitoring birds are actively evolving and feasibility would need to be determined, a specific system and methods would be identified closer to when the projects begin operating. RW has committed to conducting a one-to-two-year cross-project (SRWF, SFWF, and RWF) radar

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			study to collect data on macro (and potentially meso—i.e., flying between turbines) avoidance rates. These data on avoidance would support understanding of both displacement and collision vulnerability. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	72	Given that there are no dedicated studies that document comprehensively the responses of local avian populations to offshore wind development infrastructure in United States' territorial waters, BOEM should adopt a conservative approach in the FEIS's avian impact analysis. Modeling biases and other limitations stemming from survey efforts must be addressed.	Thank you for your comment.
BOEM-2022-0045-0110	73	As discussed above, the Revolution Wind COP bases its exposure assessment on OSAMP surveys and MDAT projections.235 Personned aerial surveys paired with vessel surveys, like those used in OSAMP, can inform offshore wind siting that minimizes avian impacts, while also measuring the realized level of impacts when comparing survey results before and after construction. However, both aerial and vessel surveys have limitations and associated biases. Transect surveys are most appropriate for species that spend a great deal of time within the survey area (e.g., alcids, gannet, phalarope, ducks); they are less appropriate for assessing risk to migrants, as the surveys are generally not repeated frequently enough to catch migration events, and fail to capture impacts to species for which populations are low enough that even small levels of take can have population-level effects (e.g., IUCN-endangered Black-capped Petrel) or species for which interactions with the WEA may be relatively rare but theoretically could result in large take levels under particular conditions (e.g., nocturnal trans-Atlantic migrants encountering the WEAs during inclement weather). Additionally, smaller avian taxa are difficult to distinguish at the species level during transect surveys. Alcids are rarely attributed to species using personned or digital aerial surveys. Sterna terns and small gulls are rarely attributable to species using any survey method (i.e., aerial or vessel), and vessel surveys frighten away some marine birds. Therefore, it is important to supplement transect surveys with additional methods to assess potential changes in distribution or migratory patterns to the extent possible before and after Project construction. Aerial surveys should be supplemented with telemetry (e.g., radio and/or satellite telemetry as appropriate) and marine radar monitoring methods. As much of the purpose of the surveys is to collect background information regarding spatial trends which can be compared against data collected post-construction, we recommend that BOEM work with Revolution Wind to institute digital aerial surveys pre-construction, if possible, without delaying development, and post-construction and include this requirement in the Final EIS. As marketed, digital aerial surveys enable surveys that fly at higher altitudes than personned surveys, they reduce safety risks, and they also allow surveys to be continued after wind farms have been constructed.236 These surveys should be implemented as part of a robust monitoring scheme because, while they provide important additional data about spatial trends, digital aerial survey technology is relatively new and its reliability for attributing observations to species and characterizing flight altitude has not yet been tested or published.237 The DEIS relies on transect surveys even though BOEM's own report indicates that the MDAT models are not suitable for predicting distribution and abundance for a rare and narrowly distributed species, even in broad scale evaluations.238 This reliance, when combined with other data deficiencies,239 likely results in an underestimation of the density of ESA-listed species within the Revolution Wind Project Area.	Marine-life Data and Analysis Team (MDAT) models are based on survey data (vessel-based and aerial surveys). Additional surveys are part of the monitoring framework provided in COP Appendix AA and include pre-construction digital aerial surveys. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	74	The COP relies, at least indirectly, on raw enumerated data from baseline and other earlier surveys that assessed bird occurrence and numbers in the project area based on relative abundance.240 The FEIS must address biases in these methods, and present published results from associated studies that account for imperfect detection. Distance sampling is the most obvious solution to address imperfect detection in vessel and aerial transect surveys, and we recommend that BOEM and developers incorporate detection probabilities241 for better enumerating the population-level impacts for birds into future survey protocols.	Avian species that may pass through the Lease Area and surrounding area, including migrants (such as raptors and songbirds), coastal birds (such as shorebirds, waterfowl, and waders), and marine birds (such as seabirds and sea ducks) are presented in COP Appendix AA Table 3-1. These species were assessed because they were recorded offshore of Rhode Island/Massachusetts in the OSAMP aerial and/or boat-based surveys, and/or are listed as potentially present in the USFWS IPaC database. The vulnerability assessment in Section 3.2.5 and Table 3-9 of COP Appendix AA accounts for uncertainties. In addition, the analysis presented in the EIS does not rely solely on information from the COP but draws from multiple sources including, but not limited to, BOEM-funded studies, the MDAT bird models (Curtice et al. 2019; Winship et al. 2018), and OSAMP survey data.

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BOEM-2022-0045-0110	75	Because of various survey biases,243 numerical impacts to birds from the Revolution Wind Farm project could be minimized using raw data alone. Instead, the FEIS for the Revolution Wind Farm must rely on realistic models produced from these standardized collection methods that also include parameters for estimating uncertainty. If annual and seasonal variations in avian movement were not well enough captured during the limited survey period, BOEM may need to continue survey efforts over the Revolution Wind Farm and surrounding lease areas planned for the foreseeable future to capture this temporal variation. For example, the COP only provides visuals of the raw data from the OSAMP surveys for passerines, shorebirds, wading birds, coastal ducks, geese, and swans. Except for phalaropes, shorebirds and passerines do not spend a significant time in the offshore environment but could potentially experience significant interactions with turbines during migration. Therefore, survey methods are not appropriate for evaluating risk to these species' groups. Furthermore, the COP does not incorporate the available visual representations of spatial distributions for the species for which this type of evaluation might be appropriate: loons, gulls, cormorants, sea ducks, seabirds, gannets, and terns. While risk evaluations to loons, sea ducks, and gannets incorporated distribution results from satellite transmitter studies, this type of evaluation was not extended to terns, gulls, cormorants, or other seabirds. Raw tracking data was illustrated for Black-capped Petrel and Piping Plover, but predictive models based on these datasets would provide a better evaluation of risk for each species.	BOEM is considering additional pre-construction survey requirements. Visual representations of density proportions from OSAMP baseline survey data can be found in Part VI of COP Appendix AA. A detailed impacts analysis to federally listed birds from construction activities is in the USFWS BA (BOEM 2022) is available on BOEM's website. The MDAT models were used for black-capped petrel and roseate terns; however, the analysis for piping plover uses predictive risk models as discussed in the BA.
BOEM-2022-0045-0110	76	OSAMP surveys (and eBird records, which were apparently not consulted) further indicate that songbirds were detected offshore during the spring and summer, when songbirds are nesting. Because each of these seasons also included months during which some songbirds might have been migrating, the observations could be indicative of passerine presence solely during migration. However, the data presented in the COP are binned by season, so there is no way to parse out the observations to determine the risk to resident birds. The FEIS must address this confounding effect, as the risk to songbirds will likely be very different depending on whether the birds are migrants or breeding season residents in Rhode Island.	OSAMP offshore surveys focused on marine birds; observers may have reported others species, but the presence of other species in the offshore environment is relatively rare and therefore the risk to resident birds is relatively very low. The eBird database includes incidental public observations. BOEM regularly uses information from eBird to support its analyses for onshore activities, however, offshore observations have proven to be unreliable. There are cases where all observations from a pelagic trip (including those made in the harbor) are recorded at a single point in the ocean and/or every birder on the boat submits their own report thus inflating the number of observations, etc. Due to these and other "irregularities", BOEM currently relies on bird observations made during scientific ocean surveys..
BOEM-2022-0045-0110	77	The COP also relied on flight heights discerned from OSAMP surveys and the Northeast Atlantic Seabird Catalog to assess collision risk. Flight height estimates from vessel surveys are generally biased low and should not be relied on to estimate average flight height.244 To the extent possible, radar, LiDAR, and pressure sensor technologies should be relied upon in the Final EIS and the limitations of each data collection method should be explicit within the Final EIS.	Thank you for your comment. In coordination with USFWS, the best available data was used and uncertainties disclosed at the time of EIS preparation.
BOEM-2022-0045-0110	78	Additionally, the data used in this model was collected using a standardized methodology recommended for vessel surveys. For example, opportunistic observations made during chumming activities or purely recreational seabirding trips may not inflate the number of birds overall, but they do confound model results by artificially creating higher densities of seabirds along vessel survey paths. This sampling bias needs to be accounted for in the FEIS.	Thank you for your comment. OSAMP surveys were scientifically-based; these surveys were not recreational seabirding trips and chumming activities did not occur (that type of data was excluded).
BOEM-2022-0045-0110	79	For many species, MDAT abundance model data were verified by the OSAMP baseline surveys. In cases where the latter gave different results than the MDAT abundance models,245 deference should be granted to the OSAMP baseline surveys, which adopted a finer scale approach. These higher levels of spatial resolution can help detect any changes in use that may result from displacement or habitat loss from the Revolution Wind Farm. BOEM should require the developer to continue at least this level of sampling resolution so that BOEM can accurately evaluate any potential changes in avian distribution that may result from the construction and operation of Revolution Wind. We remain concerned, however, that surveys are still too temporally and spatially limited to detect changes in avian distribution from the Revolution Wind development. Both the OSAMP and MDAT data are nearly 10 years old. While the survey coverage extends beyond the Revolution Wind footprint, some species may experience displacement for up to 20 km from an offshore wind turbine array.246 Therefore, any EIS should include information of avian distribution and occurrence for a minimum of 20 km surrounding the Revolution Wind area to completely understand which species may be impacted by developing Revolution Wind. Annual and seasonal variations in avian movement are also not well captured during the limited survey period, and therefore BOEM should work with developers to continue aerial surveys over the southern New England planning areas, including a 20 km buffer, to capture this variation, beginning as soon as possible. Surveys should be repeated	The OSAMP baseline surveys (aerial and boat based) span a larger area than the Rev Wind lease and the smaller proposed project areas (see COP, Appendix AA Figure 3-2). The OSAMP surveys were among the many data sets that were used to develop the MDAT models. The MDAT models create a common map that predicts the seasonal relative abundance and distribution of 47 species of marine birds on the Atlantic OCS thus covering the so called "20 km buffer". Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.

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		frequently enough to cover within and between seasonal and annual variation in avian distribution, so that changes in distribution caused by offshore wind development can be discerned from other sources.	
BOEM-2022-0045-0110	80	The FEIS should include a quantitative collision risk analysis on species that occur within a 20 km radius of the WEA and that trigger conservation obligations. These species include, but are not limited to, Roseate Tern, Piping Plover, Red Knot, Common Tern, Least Tern, American Oystercatcher, and Upland Sandpiper, including the risk posed to any other imperiled birds as they migrate through the project area. This analysis should include the most recently available scientific information. Furthermore, the FEIS cannot rely solely on pre-project assessments to make its determination of impacts from collision. We agree with the COP determination that the currently known distributions for Golden and Bald Eagles as well as for Black-capped Petrel make impacts from this project on these species unlikely.247 Nevertheless, we recognize that new information could change this assumption. Based on MDAT models and OSAMP baseline surveys, the Project will not likely have consistent impacts across seasons to avian populations during operation, especially when compared to offshore call areas elsewhere that are nearer to seabird colonies and/or more proximate to notable feeding hotspots. MDAT distribution models especially have limited reliability for rare species, and more accurate or precise methods for predicting impacts have not yet been applied consistently in offshore environments of the United States. Additionally, although collision events during migration are likely to occur less frequently, these episodic events still have the potential to have population-level consequences during a short time. All current offshore lease areas and Call Areas occur within migratory pathways for trans-Atlantic migratory songbirds and shorebirds. BOEM's FEIS needs to evaluate this cumulative risk, as the likelihood of large collision events will increase as the total footprint increases for offshore wind projects.	Cumulative impacts to common tern including a collision risk assessment were analyzed for the VW EIS (cited in EIS Section 3.7.1.). There is currently not enough information available to conduct a collision risk assessment for least tern, sandpiper, or oystercatcher. Furthermore, coastal birds are considered to have minimal exposure to the Lease Area. Collision risk assessments for other species identified in this comment were conducted for this project by an intra-agency team using the best available science.
BOEM-2022-0045-0110	81	The FEIS should explicitly outline BOEM's plan to implement collision detection and minimization measures during the operation of Revolution Wind and other planning areas. Under the ESA and MBTA, developers are responsible for any take of migratory birds and ESA-listed species. Without appropriate monitoring for collision detection, however, large collision events could have serious population-level impacts to migratory songbirds and shorebirds without any recourse for avoidance, minimization, or mitigation. This is not an acceptable contingency, and BOEM must stipulate in the FEIS how it will address collision detection.	Technology for collision detection for offshore wind turbines has not been developed at this time. As described in the Revolution Wind Avian and Bat Post-construction Monitoring Framework (attachment to COP Appendix AA), Revolution Wind, or its designated operator, would implement a reporting system to document dead or injured birds or bats found incidentally on vessels and project structures during construction, operation, and decommissioning. The location would be marked using GPS, an Incident Reporting Form would be filled out, and digital photographs taken.
BOEM-2022-0045-0110	82	The Revolution Wind COP and DEIS do not (indeed, at present cannot) assess accurately the true collision risks to most species of seabirds. Collisions may occur within the rotor swept zone (RSZ), the WTG tower, or the WTG hub.248 The COP employs a reasonable conceptual framework when identifying relevant categories of potential impacts from the project to birds.249 Although not stated explicitly, collision risk is presumably a joint product of impacts caused by "visible structures" and "lighting," as well as possibly "[vessel] traffic[.]"250 During construction and decommissioning, potential impacts from structures and lighting are considered direct/indirect and short-term.251 However, during operations and maintenance phases, potential impacts from collision are reasonably considered to be direct and long-term.252 In evaluating the exposure of various bird taxa, including seabirds, to this collision risk, exposure is taken mainly as a function of currently known distributions in the OSAMP survey area.253 However, such assessment does not provide for inherent uncertainties in the ranges of flight heights, avoidance rates, and other relevant avian flight behavior used by seabirds depending on environmental conditions, foraging status, wind speed and direction, and season.254 Flight height is an essential parameter for determining the actual collision risk. The Final EIS must also consider the range of turbine specifications that could influence collision risk, including air gap, total rotor swept zone, and turbine height. The FEIS must, at the very least, provide results from BOEM's own analysis of the vulnerability of 177 species of birds that could come into contact with WTGs throughout the cumulative area of the OCS where wind development areas (WDAs) are planned in the foreseeable future, then incorporate that analysis into cumulative impacts conclusions within the FEIS for this project.255 In doing so, the FEIS must be transparent in presenting the high level of uncertainty in its results, including high and low estimates for these population-level cumulative impacts. Much (but not all) of the high uncertainty in these models is a result of highly variable concentrations of seabirds throughout the year. COPs for some WDAs in the Atlantic OCS reference a study by Nisbet et al. (2013),256 acknowledging this confounding effect: Petrels and shearwaters that breed in the southern hemisphere visit the northern hemisphere during the austral winter (boreal summer) in vast numbers. These species use the US Atlantic Outer Continental Shelf ("OCS") region so heavily that, in terms of sheer numbers, they easily swamp the locally breeding species and year-round residents at this time of year.257	Collision risk modeling for ESA-listed species using different turbine specifications is included in the USFWS BA (BOEM 22) available on the BOEM website. For the other species listed in this comment, the MDAT model shows low species abundance in the Lease Area, and collision risk assessments were not conducted because there is not enough biological input information for the models.

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		Additionally, “many species continue to congregate outside the breeding season in areas of high productivity, such as upwellings. Huge flocks of Sooty and Greater Shearwaters have been seen in these areas.”258 “For most development sites, the statistical variation in the data derived from surveys is likely to mask any within-site variations in bird density.”259 The OSAMP baseline surveys provide more information on some of the seasonal variation in occurrence of seabirds in the Revolution Wind Project Area, as compared to other WDAs.260 The FEIS for Revolution Wind also should consider variability of large concentrations of birds during even shorter periods of time for analysis when calculating risk to birds. Such concentrated flocks, if occurring within the turbine array, could produce large collision events, even if such events are relatively rare. The Final EIS should consider this variability of large concentrations of birds even in short periods of time in its analysis of seasonal abundance when calculating risk to birds.	
BOEM-2022-0045-0110	83	Collision risks to nocturnal migrants261 have not been sufficiently accounted for in either the Revolution Wind COP or DEIS. The Robinson Willmot (2013) study262 and OSAMP study,263 for example, were not designed to assess risks for nocturnal migrants. Likewise, radar studies,264 while helpful in characterizing migration timing, do not cover the Revolution Wind project area, and typically are based on a limited number of years. The FEIS must consider migration timing, variations in flight height, and the distance from shore at which nocturnal migrants reach their maximum and minimum migration flight heights. The FEIS should contain a full analysis of these study results and not rely on a simple summary of the raw data to inform its collision risk analysis for nocturnal migrants. In general, efforts to understand these impacts should rely on a combination of radar, telemetry, survey, and acoustic monitoring, and should not be based on a single technology alone.	The Vineyard Wind 1 Final EIS (BOEM 2021a) discusses potential impacts to nocturnal migrants and addresses those impacts in its monitoring framework. Table A.8.3-1 in Appendix A of the Vineyard Wind 1 Final EIS (BOEM 2021a) is incorporated by reference in the RWF EIS (in Section 3.7.1). BOEM used the best available scientific data at the time of EIS preparation.
BOEM-2022-0045-0110	84	When incorporating radio-telemetry methods, receiving stations need to be installed in the offshore environment in such a way that avian movement in and around the WEAs can be adequately assessed. BOEM should follow the monitoring protocols for automated radio telemetry currently in development by NYSERDA and USFWS.265 We applaud this interagency effort to develop and test robust, scientifically sound monitoring protocols. BOEM needs to support efforts to further this technology, adopt these methods into regional monitoring protocols for offshore wind development, ensure the success of this technology moving forward, and incorporate data from these efforts into the FEIS for Revolution Wind (and other impacts analyses into the future).	The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and as an attachment to COP Appendix AA, which are publicly available on BOEM's website. Due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project. If there is a need identified by USFWS, and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF. Since radar approaches to monitoring birds are actively evolving and feasibility would need to be determined, a specific system and methods would be identified closer to when the projects begin operating. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	85	La Sorte and Fink (2017)266 document flights of several species of migratory birds that migrate over the Atlantic Ocean: American Golden-Plover, Bicknell’s Thrush, Blackpoll Warbler, Bobolink, Buff-breasted Sandpiper, Connecticut Warbler, Pectoral Sandpiper, Semipalmated Sandpiper, Solitary Sandpiper, and White-rumped Sandpiper. Two species classified by USFWS as Birds of Conservation Concern—Upland Sandpiper and Whimbrel—also cross the Atlantic Ocean during migration. We do not currently know all specifications for turbines that Revolution Wind plans to use in the Project, especially under DEIS Alternative F.267 While there is evidence to suggest that nocturnally migrating songbirds typically fly above the rotor swept zone for some current wind turbines in operation, we also know that nocturnal migrants fly lower, potentially within the rotor swept zone, during inclement weather and cross winds.268 Relying on the current system of automated radio telemetry receivers to minimize risk is inappropriate, as the network of	While it is unlikely that nocturnal migrants would use this space during inclement weather, the Vineyard Wind 1 Final EIS (BOEM 2021a) discusses potential impacts to nocturnal migrants and addresses those impacts in its monitoring framework. Table A.8.3-1 in Appendix A of the Vineyard Wind 1 Final EIS (BOEM 2021a) is incorporated by reference (in Section 3.7.1). The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New

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		receivers has not been validated in the offshore environment. Additionally, automated radio telemetry does not adequately estimate flight height, though there are efforts underway to fill this information gap. The current configuration of VHF receiving towers does not allow for detailed characterization of flight paths for this species or any protected avian species using that tracking technology, and therefore, BOEM should take a conservative approach in the FEIS when evaluating potential impacts (cumulative or otherwise) to Piping Plover, Red Knot, and other species which may fly through the Revolution Wind area and other wind development areas expected in the foreseeable future. It is essential that BOEM invests in supporting the Motus system, including supporting the construction and maintenance of a full network of VHF receiving towers throughout the Atlantic OCS.	England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project. If there is a need identified by USFWS, and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF. Since radar approaches to monitoring birds are actively evolving and feasibility would need to be determined, a specific system and methods would be identified closer to when the projects begin operating. Marine birds, particularly loons, sea ducks, auks, and the Northern Gannet (Morus bassanus), have been documented to avoid offshore wind farms, potentially leading to displacement from habitat (Goodale and Milman 2016). However, there remains uncertainty on how birds would respond to RWF turbines that would be spaced one nautical mile apart. Based on methods used by Desholm and Kahlert (2005), Skov et al. (2018), and others, RW is considering conducting a one-to-two-year cross-project (SRWF, SFWF, and RWF) radar study to collect data on macro (and potentially meso—i.e., flying between turbines) avoidance rates. These data on avoidance would support understanding of both displacement and collision vulnerability. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	86	The FEIS should also produce a fuller picture of migratory pathways for songbirds and shorebirds. This could be realized with the addition of satellite tracking information from Movebank and NASA's Icarus project for larger-bodied shorebirds, additional research and tagging of priority bird species using radio and satellite telemetry technology, and expansion of the radio telemetry receiver network in the offshore environment. At the least, BOEM should outline plans in the FEIS to fill these knowledge gaps to better inform future offshore wind operation and siting processes. In addition, there should be a commitment to, and process outlined for, addressing unforeseen impacts through compensatory mitigation (see section on Compensatory Mitigation for Birds).	BOEM does not anticipate incidental take that would require compensatory mitigation. The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and as an attachment to COP Appendix AA, which are publicly available on BOEM's website. Due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project. If there is a need identified by USFWS, and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF. Since radar approaches to monitoring birds are actively evolving and feasibility would need to be determined, a specific system and methods would be identified closer to when the projects begin operating. Marine birds, particularly loons, sea ducks, auks, and the Northern Gannet (Morus bassanus), have been documented to avoid offshore wind farms, potentially leading to displacement from habitat (Goodale and Milman 2016). However, there remains uncertainty on how birds would respond to the RWF turbines that would be spaced one nautical mile apart. Based

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			on methods used by Desholm and Kahlert (2005), Skov et al. (2018), and others, RW is considering conducting a one-to-two-year cross-project (SRWF, SFWF, and RWF) radar study to collect data on macro (and potentially meso—i.e., flying between turbines) avoidance rates including flux rates and flight heights of nocturnal migrants. These data on avoidance would support understanding of both displacement and collision vulnerability. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	87	The COP asserts that collisions with the Revolution Wind Farm are not expected to affect populations of marine birds.269 Moreover, the COP claims without support that petrels, shearwaters, and storm-petrels are generally not considered vulnerable to collision because they avoid turbines and fly primarily below the rotor swept zone (RSZ). Deriving any inferences about procellariform (tubenose) seabirds based on the European experience with offshore wind is highly problematic, however, as most North American procellariform seabirds are absent in the regionally shallow waters of the Irish, North, and Baltic seas. Some shearwaters and petrels reach flight heights greater than 50 m during high winds,270 certainly placing them within the RSZ. Consequently, the FEIS must reorient its assumptions about no or little collision risk for this group of marine birds. We have previously provided comments to BOEM about use of collision risk models (CRMs). Our criticism of CRMs does not mean such models should be ignored entirely when evaluating impacts of the Project. Rather, CRMs provide a mechanism for testing outcomes (e.g., observed collision rates) against the model predictions (e.g., expected collision rates), and BOEM must address the need to collect the data necessary to test these hypotheses. We reiterate our concerns with BOEM's previous application of CRMs in the following paragraphs in hopes that BOEM will provide a more detailed collision risk analysis in the FEIS for Revolution Wind. The FEIS should include a transparent CRM-driven analysis for all species of conservation obligation which may occur within 20 km of the Revolution Wind footprint and for which a current CRM would be appropriate, even if the species has not been documented with observations inside the footprint of the Project. This should include a recent stochastic derivation of the Band model, such as the McGregor (2018)271 version.	Collision risk modeling for ESA-listed species using different turbine specifications is included in the BA (BOEM 2022) available on BOEM's website. BOEM has been working with the USFWS on a new collision risk model (SCRAM) to analyze risk to ESA-listed birds (https://www.boem.gov/environment/environmental-studies/transparent-modeling-collision-risk-three-federally-listed-bird species) and used SCRAM in the most recent BA. For the other species listed in this comment, the MDAT model shows low species abundance in the Lease Area and many species do not have enough biological input information for the models. In addition, BOEM used collision risk modelling to better understand the cumulative risk to several seabird species in the Atlantic: this analysis included most offshore wind project including the Rev Wind project area (see Vineyard Wind 1 FEIS, Appendix A).
BOEM-2022-0045-0110	88	BOEM must be transparent in its CRM application. As discussed in depth in Attachment 3, CRM models are extremely sensitive to the input parameters and therefore the FEIS must provide the inputs used in its analysis for public review and transparency. Additionally, CRMs should consider any differences in daytime and nighttime flight patterns. These collision risk models are an important starting point to predict cumulative, population-level impacts and BOEM should pursue studies to not only verify CRM utility in the offshore environment, but to also move toward viable collision detection requirements for Revolution Wind and future offshore wind developments.	Collision risk modeling for ESA-listed species using different turbine specifications is included in the BA (BOEM 2022) available on BOEM's website. For the other species listed in this comment, the MDAT model shows low species abundance in the Lease Area, and collision risk assessments were not conducted because there is not enough biological input information for the models. BOEM has been working with the USFWS on a new collision risk model (SCRAM) to analyze risk to ESA-listed birds: https://www.boem.gov/environment/environmental-studies/transparent-modeling-collision-risk-three-federally-listed-bird
BOEM-2022-0045-0110	89	The COP makes an inappropriate assumption that larger turbines reduce collision risk.272 There is no substantial evidence to suggest that larger turbines, spaced farther apart, reduces risks to birds, and it should be a goal of BOEM to understand the effects of displacement and mortality relative to turbine size and spacing. As there is no data to support the claim in the COP that larger wind turbines will minimize risks to birds,273 it would be inappropriate for BOEM to rely on this analysis in the FEIS. Size of turbines has grown substantially over the past decade, and this trend is expected to continue. In its Vineyard Wind 1 project, for example, Vineyard Wind plans to use GE's 12MW Haliade-X turbine, which has a 220-meter rotor swept zone and is estimated to reach a maximum height of 260 meters above sea level. The University of Virginia is currently developing 200-meter-long blades to power a 50 MW turbine, with a potential rotor swept zone of approximately 400 meters. Given that the tower height would need to be more than 200 meters in height to accommodate rotor blades of this size, turbines could soon reach heights greater than 400 meters above sea level. Studies which suggest that fewer, larger turbines reduce avian collision risk274 are based on turbines less than 5 MW. As turbines increase in size, they are more likely to encroach on airspace occupied by nocturnal migrants275 while not necessarily avoiding airspace occupied by relatively lower flying foraging marine bird species. Conversely, certain studies find that bird deaths not only increase with turbine size, but also suggest that the number of bird deaths from collision with wind turbines is proportional to the MW produced in a wind	Collision risk modeling for ESA-listed species using different turbine specifications is included in BA (BOEM 22). For the other species listed in this comment, the MDAT model shows low species abundance in the Lease Area, and collision risk assessments were not conducted because there is not enough biological input information for the models. BOEM has been working with the FWS on a new collision risk model (SCRAM) to analyze risk to ESA-listed birds: https://www.boem.gov/environment/environmental-studies/transparent-modeling-collision-risk-three-federally-listed-bird

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		farm.276 Turbulence above and below the rotor swept zone can affect flight performance. If this should make birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. Additionally, limiting risk evaluations to the rotor swept zone neglects the risk of collision from the tower itself and turbulence around the rotor swept zone. Suggestions that increased spacing (1 nm) between turbines would reduce risks to birds from both collision and displacement is unfounded, as offshore wind farms in Europe do not provide this level of spacing, and therefore, there is no operational comparisons to be made. Instead, increased spacing means fewer turbines and less energy production within the footprint of the project, so more projects (and more space) will be necessary to meet state and national energy goals. Furthermore, greater space between turbines may increase collision risk if species vulnerable to collision end up using the wind farm more frequently. Unfortunately, these all remain unknowns until such configurations are developed and operational. BOEM should support studies designed to answer these questions. The FEIS should include a risk assessment, considering the full range of the potential rotor swept zone provided in the COP, to assess 1) impacts from collision and barrier effects to migrating birds, and 2) potential increased habitat loss that may need to occur to reach offshore wind energy goals.	
BOEM-2022-0045-0110	90	The COP and DEIS must not limit the impact assessment solely to the project's immediate footprint. As noted earlier, evidence from construction and operation at other offshore wind farms suggest marine birds may be disturbed up to at least 20 km away from operating wind farms. Though flight-initiation distances are highly variable, nesting and foraging shorebirds can be disturbed from coastal anthropogenic activities more than 200 meters away. Diving marine birds may also be heavily impacted from the noises associated with pile driving. Underwater noise impacts to diving birds must be considered in the FEIS, and cannot be limited to an assessment of the Revolution Wind farm footprint. Additionally, vessel traffic can disrupt wintering marine birds, and construction activities can have impacts to birds and their prey which will not end immediately after construction—some modifications to the habitat will not return to a healthy state until long after construction activities end. Given the avian distribution off Rhode Island's coast, it is likely that marine bird communities will be heavily disturbed during construction activities.	Tougaard et al. (2020) summarized available monitoring data on wind farm operational noise, including both older generation geared turbine designs and quieter modern direct drive systems like those proposed for the RWF. They determined that operating turbines produce underwater noise on the order of 110 to 125 root mean square decibels (dBRMS), occasionally reaching as high as 128 dBRMS, in the 10-hertz (Hz) to 8-kilohertz (kHz) range. This is consistent with the noise levels observed at the BIWF (110 to 125 decibels referenced to a pressure of one micro pascal [dB re 1 µPa] sound pressure level [SPL] RMS) (Elliot et al. 2019) and the range of values observed at European wind farms and is therefore representative of the range of operational noise levels likely to occur from future wind energy projects. The EIS has been updated to reflect the effects from operational noise on diving birds within the above-referenced range. Impacts from vessel traffic on birds are discussed in Section 3.16 of the EIS. Underwater noise effects on ESA-listed species are discussed in Section 4.1.2.2 of the BA. Based on prior observations by Jansen and de Jong (2016) and ambient noise levels described above, operational underwater noise would not be audible outside the immediate vicinity of the RWF, would not exceed fish injury or behavioral thresholds, and would therefore have no measurable effect on prey availability for roseate terns.
BOEM-2022-0045-0110	91	Construction activities from the cable laying and transition are not limited to the footprint of the cable. Noise and disruption caused by construction will likely disturb marine birds during the entirety of project build-out, and the COP fails to itemize the timeline expected from this disturbance. Especially closer to shore, this could displace sea ducks, waterbirds, and alcids from important foraging habitat. While it may not be possible to avoid such impacts entirely, the FEIS needs to be transparent in addressing these impacts and paths for mitigating these impacts.	Construction, operation, and decommissioning timelines were all considering when assessing impacts to marine birds from cable laying (see EIS Sections 3.7.2.3.1 and 3.7.2.3.2). Design features and timing restrictions will be implemented to reduce impacts to marine birds that may be impacted by these activities, as described in the EIS in Section 3.7.2.6.
BOEM-2022-0045-0110	92	Cable laying and pile driving will likely impact birds, regardless of timing. Beach nesting birds, like Piping Plover, American Oystercatcher, Least Tern, Herring Gull, Double-crested Cormorant, and Common Tern, may be present in and around Revolution Wind from March through September. Red Knots, Semipalmated Sandpiper, and Black-bellied Plover may be affected by construction activities in spring and fall. Marine bird species, such as Northern Gannets, shearwaters, and storm-petrels, will be present within Revolution Wind during more than one season. If construction of cable routes is timed to avoid beach nesting birds, then it will likely impact wintering sea ducks. While it may not be possible to avoid impacts entirely, the FEIS should transparently address these impacts and provide a path to mitigate such impacts.	The construction of the onshore cable route is timed to avoid nesting beach birds. The offshore cable laying activities are highly localized and transitory and requires vessels to move at excruciatingly slow speeds. Birds on the water would simply move away and return after the passing of vessels.
BOEM-2022-0045-0110	93	While Roseate Tern, Piping Plover, and Red Knot may fly through Revolution Wind offshore, the Final EIS must also consider the potential impacts of developing Revolution Wind to these ESA-listed species onshore. Piping Plover or tern chicks within 100 m of onshore construction activities will require the developer to hire a spotter to prevent the chicks from encountering harm during activities. Additionally, no construction activities may be allowed on the beach or intertidal zone within 100 m of Piping Plover chicks or nests, as this would starve breeding plovers of necessary foraging habitat. Migrating Red Knots and	The analysis in the USFWS BA (available on BOEM's website) concluded that there would be no effect to ESA-listed species from upland disturbance during onshore project construction (BOEM 2022). This is due to the lack of documented breeding habitat and staging areas within the onshore project area (or within 100 meters).

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		other shorebirds rely on the mudflats along Rhode Island's coast to rest and refuel during their fall migration. Common and Roseate Terns rely on these same mudflats for staging from August-October. The FEIS must consider the impacts of building out Revolution Wind to these species, even when the activities associated with development fall outside the footprint for the Revolution Wind Farm.	
BOEM-2022-0045-0110	94	The COP contends that: Overall, displacement from the RWF is not expected to affect the populations of non-marine migratory birds (Table 4.3.6-6), because RWF is not primary habitat for these species and any avoidance behavior during migration is not likely to substantially increase energetics or reduce foraging opportunities (a detailed assessment is in Appendix AA)…Coastal birds…, waterfowl…, wading birds…, raptors…, and songbirds…, may occasionally forage in the Lease Area, visit the area sporadically, or pass through on their spring and/or fall migrations…Overall, displacement from the RWF is not expected to affect the populations of marine birds (Table 4.3.6-6).282 The COP implies that these impacts will be negligible to minimal, because the Wind Farm Area is generally far enough offshore as to be beyond the range of most breeding terrestrial or coastal bird species, and the small footprint of disturbance relative to the large expanse of similar habitat available within and adjacent to the Lease Area and in the broader region will allow birds to access comparable prey species outside the disturbance area associated with construction of the RWF.283 This assessment is not commensurate with the potential level of impacts which could be experienced during and following the activity. Impacts do not end immediately after construction activity. Modifications to habitat will not return to a baseline state until long after construction activities cease. Given the avian distributions portrayed in maps upon which the COP is based,284 it is likely that marine bird communities will be heavily disturbed during construction activities. At the very least, avian monitors should accompany construction vessels to document any disturbance to birds that is immediately obvious.	Thank you for your comment. A monitoring framework has been developed and is included in Appendix G and as an attachment to Appendix AA of the COP and will be implemented to determine the duration of displacement, among other monitoring metrics.
BOEM-2022-0045-0110	95	In addition, the COP makes inappropriate assertions about risks to birds from vessel traffic and cable laying as well as the benefits to birds from habitat alterations and the reef effect.285 Terns can use upwellings and ocean turbulence as ecological cues to locate important foraging areas offshore. In addition to project construction's disruption of foraging fish breeding communities on the ocean floor, the turbine monopiles can mimic these cues, even when foraging fish are not present. According to recent research, "[t]he structures themselves may provide artificial foraging cues (or ecological trap) by which terns will ignore important upwellings in favor of investigating turbulence created by the turbine structure."	Thank you for your comment. Based on the best available science, no evidence is found to support that structures themselves may provide artificial foraging cues (or ecological trap) by which terns will ignore important upwellings in favor of investigating turbulence created by the turbine structure. Based on the lack of data on this topic, no change will be made to the analysis in the EIS.
BOEM-2022-0045-0110	96	Cox Ledge is considered a prime destination for birders in New England who wish to see pelagic birds, like shearwaters, storm-petrels, and kittiwakes. Given that Revolution Wind surrounds the shoal known as Cox Ledge, we appreciate that the Project has been well-sited to avoid the most significant impacts to marine birds, based on the avian distribution models resulting from OSAMP surveys.287 These models are based on exemplary survey methods and suggest that the Revolution Wind area is preferred over other areas sampled within the OSAMP as it relates to predicted avian impacts. Nevertheless, while this evidence suggests that the Revolution Wind is predicted to be of lower impacts to birds, relative to others within the OSAMP survey boundaries, this does not suggest impacts will be non-existent. An analysis by Winiarski and colleagues288 models avian population performance under various wind development area scenarios. There is evidence from these results to suggest that storm-petrels may be more impacted by these developments than other marine avian species and should, therefore, receive additional attention. Furthermore, these projected estimates are limited to impacts from loss of habitat area. The analysis does not attempt to estimate changes to population growth and, while it does address additional impacts from displacement, these impacts are likely underestimated. The authors state: Weighting of marine birds in the SCP [spatial conservation prioritization] based on their displacement sensitivity and conservation priority from Furness et al. (2013)289 increased the conservation priority ranking of nearshore waters. However, further development of displacement sensitivity weightings (Furness et al. 2013) are needed because they are currently based on relatively few OWED [offshore wind energy developments] monitoring studies in Europe that were all conducted in relatively shallow waters. Increased monitoring of European OWEDs and future monitoring of OWEDs in US waters will lead to more accurate estimates of displacement sensitivity for species or species' groups of marine birds. We know that kittiwakes – a species which occurs within the OSAMP area – can be displaced up to 20 km from operating marine wind farms.290 We also know that, while birds may congregate more frequently in areas outside of Revolution Wind Project, they may continue to pass through Revolution Wind, putting them at greater risk of collision. We simply do not know the full extent of habitat loss that marine birds will experience because of Revolution Wind, nor do we know the rate at which	Thank you for your comment. A monitoring framework has been developed as an attachment to Appendix AA of the COP and will be implemented to determine the duration of displacement, among other monitoring metrics.

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		birds that continue to forage in the area will be lost to collision. We do, however, know that birders have been consistently successful in sighting seabirds on trips to Cox Ledge, both on dedicated birding pelagic trips as well as on fishing trips and BOEM should be transparent in its predictions of the potential impacts to birds from Revolution Wind. This will require a clearly defined path forward for monitoring the impacts from the operational project that includes installing collision detection technology and continuing the OSAMP surveys now through construction and for several years following the start of operation.	
BOEM-2022-0045-0110	97	In addition to better accounting for potential avian impacts in the FEIS, BOEM should require developers to undertake long-term Project monitoring before, during, and after construction for endangered species like Red Knots and Piping Plover, for other species with a suspected high collision risk (such as shearwaters and petrels), for species of conservation obligation, and, at a minimum, for species of migratory birds that cross the Atlantic through the Project Area. In this case, at the least, Revolution Wind should implement robust monitoring during and post-construction and we suggest that BOEM clearly outline monitoring requirements and coordinate with other stakeholders, including the Revolution Wind developers; Rhode Island, Massachusetts, Connecticut, and New York state agencies; and the Regional Wildlife Science Collaborative, to support the development of a regional monitoring plan for birds and other wildlife. Monitoring for adverse effects requires multiple modes of evaluation in a coordinated framework pre- and post-construction. Radar, vessel and aerial surveys, acoustic monitoring, satellite and/or radio telemetry are all complimentary tools that provide data necessary for evaluating impacts, although none of these tools may provide a full picture when used alone.	The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and as an attachment to COP Appendix AA, which are publicly available on BOEM's website. Due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project. If there is a need identified by USFWS, and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF. Since radar approaches to monitoring birds are actively evolving and feasibility would need to be determined, a specific system and methods would be identified closer to when the projects begin operating. Marine birds, particularly loons, sea ducks, auks, and the Northern Gannet (Morus bassanus), have been documented to avoid offshore wind farms, potentially leading to displacement from habitat (Goodale and Milman 2016). However, there remains uncertainty on how birds would respond to the RWF turbines that would be spaced one nautical mile apart. Based on methods used by Desholm and Kahlert (2005), Skov et al. (2018), and others, RW is considering conducting a one-to-two-year cross-project (SRWF, SFWF, and RWF) radar study to collect data on macro (and potentially meso—i.e., flying between turbines) avoidance rates. These data on avoidance would support understanding of both displacement and collision vulnerability. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	98	As discussed in detail in Attachment 3 and the above section regarding collision impacts, collision monitoring is critical and, while traditional carcass searches cannot be done at offshore sites, that is not reason enough to abandon post-construction fatality monitoring—an obligation to which the onshore wind industry has committed.291 Further, there is ongoing, rapid development of imaging and bird strike technologies, some of which is actively funded by the Department of Energy. BOEM and developers should support the development and integration of strike detection technologies and Revolution Wind should plan to integrate strike detection technologies once they become verified, commercially available, and affordable at scale within the lifetime of the project's operations. The incorporation of these new monitoring technologies, hopefully standardized, should be a required element in the post-construction monitoring plan, even if it must be phased in later if not immediately upon operation.	Fatality monitoring is included in the Avian and Bat Post-Construction Monitoring Framework, which is included in Appendix G and as an attachment to COP Appendix AA, and are publicly available on BOEM's website. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	99	The COP proposes relatively few concrete measures for monitoring collision impacts to birds in the Project, and some of these are contingent: Revolution Wind is developing an Avian Post-Construction Monitoring Plan for the Project that will summarize the approach to	Fatality monitoring is included in the Avian and Bat Post-Construction Monitoring Framework, which is included in Appendix G and as an attachment to COP Appendix AA, and is publicly available on BOEM's website. Additional mitigation and monitoring

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		monitoring;…and describe methods and time frames for data collection, analysis, and reporting…Where possible, monitoring conducted by Revolution Wind will build on and align with post-construction monitoring conducted by the other Orsted/Eversource offshore wind projects in the Northeast region…Revolution Wind will document any dead (or injured) birds/bats found incidentally on vessels and structures during construction, O&M, and decommissioning and provide an annual report to BOEM and United States Fish and Wildlife Service (USFWS).292 Revolution Wind suggests that mortality monitoring rely on carcass monitoring around the base of the offshore wind turbines. This is contrary to standard protocol for post-construction monitoring at onshore wind projects where a radius from the turbine is prescribed as the search area and includes where birds may be expelled or thrown from the actual turbine structure and blades. Offshore structures anticipated to be installed have very little available surface area on which a dead or injured bird could land. Defining the structure as a search area, if it means the turbine base or nacelle (since no injured or dead birds could be found on the blades), is inadequate. Only updated technology will detect bird strikes or mortalities in the appropriate range established by onshore post-construction mortality studies. The Final EIS must address this inadequacy in the COP and mandate an adaptive management protocol to enable adequately monitoring mortality events.	measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	100	The FEIS and the Record of Decision (ROD) for the Project should specifically include the adoption of monitoring technologies (including collision detection technologies) that are verified and commercially available as part of the Project monitoring protocol and include monitoring frameworks for future projects permitted. BOEM should support development and funding for development and Revolution Wind should collaborate with researchers to test technology at the Project.	The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	101	BOEM must also stipulate a requirement that industry mortality reports be made promptly available to the public and that this requirement should be incorporated into the FEIS and ROD.	BOEM requires the reporting of bird mortalities (see Biological Assessment and EIS, Table F-2). The reports may be available upon request.
BOEM-2022-0045-0110	102	We appreciate the monitoring methods proposed by Revolution Wind, such as installing Motus receiver stations, contributing to funding for 150 Motus tags per year for up to three years, and radar monitoring.293 Additionally, we encourage BOEM to require Revolution Wind to conduct acoustic monitoring for birds and bats, pre-construction (if able without delaying construction) and post-construction avian boat surveys, and avian behavior point count surveys at individual WTGs. We hope that the FEIS will provide further specifications for how this monitoring should be carried out to collect the best available data and will require such a framework be adopted by Revolution Wind for the Project.	Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	103	Monitoring pre- and post-construction should be designed in such a way as to be able to discern any changes to avian spatial distribution that might be a result of construction and operation of the Project. A monitoring plan should incorporate suggestions previously provided to BOEM via the Avian Considerations recommendations.	The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and as an attachment to COP Appendix AA, which are publicly available on BOEM's website. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	104	More specifically, we recommend that efforts to track avian movement include both satellite and passive radio telemetry. Technically speaking, while the passive radio telemetry receivers for these efforts are considered part of the Motus network, the tags themselves are VHF and UHF radio transmitters. BOEM and developers should follow recommendations by USFWS Northeast Migratory Bird Office when deploying receivers and tags, using the specifications best able to capture migratory routes in the offshore environment.	Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	105	We further suggest that avian boat surveys and tracking studies be accompanied by aerial surveys when possible as well as radar studies. Digital aerial surveys may be conducted from a higher flight altitude, and when calibrated with boat-based surveys, may provide a method for continuing aerial surveys post construction, when low-flying personned flights would no longer be possible. Radar surveys can provide a broad overview for comparison of flight paths, especially for nocturnal migrants which could not be captured during daytime survey efforts.	Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.
BOEM-2022-0045-0110	106	The DEIS fails to provide any scientific evidence to support a realistic cumulative impact assessment for birds resulting from wind farm construction and operation in the Atlantic OCS. In reference to onshore activities, the cumulative impacts assessment neglects to provide for any cumulative impacts resulting from projects outside of the Project. Instead, the DEIS only assesses impacts resulting from the current Revolution Wind project per se under salient consideration, stating, e.g., “the amount of habitat loss is small relative to the similar habitat that	The cumulative impact to birds for the propose action (Alternative B - up to 100 turbines) is minor (EIS, Table 3.7-1). This is supported by the impact analysis for the potential build out of over 2000 turbines on the Atlantic OCS (see Vineyard Wind 1 EIS Vol II, Appendix A, pp A99-A105). The analysis was based on a series of analyses that includes using estimates of number birds killed per turbine at land based turbines from Loss et al 2013, using a

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		will remain unimpacted in the general region."295 Indeed, the DEIS concludes that "migratory birds that use the offshore WEAs during all or parts of the year would either be exposed to new collision risk or would have long-term functional habitat loss due to behavioral avoidance and displacement from WEAs on the Atlantic OCS."296 Regarding noise in the offshore wind development, we simply do not know enough about the effects of noise from pile driving to diving marine birds297 to be able to assert with confidence that these activities do not result in changes to population vital rates. BOEM and the developer should support future studies which quantify these impacts on marine birds, with a special focus on alcids, loons, seaducks, and other diving marine birds. Based on alternatives that would permit up to 93 WTGs,298 the DEIS infers that the Revolution Wind Project will account for less than 5% of the 2,066 turbines anticipated for the Atlantic OCS in the foreseeable future. Loss et al. (2013) estimates that the average annual mortality rate for birds from turbines onshore is 3.58 birds/MW (95% C.I.=3.05-4.68).299 The 2,066 offshore turbines currently expected would have a 12-14 MW generation capacity and produce between 24,792 MW (with 12MW turbines) and 28,924 MW (with 14MW turbines) cumulatively. If bird fatalities at offshore wind turbines are comparable to those at land-based ones, using the average mortality estimate from Loss et al. (2013), this offshore build-out could kill between 88,755 and 103,548 birds annually or an estimated 2,662,650 to 3,106,440 birds over thirty years of cumulative impacts. The Revolution Wind Project alone, with up to 93 total turbines, and under this same formula when applied to 880 MW, could kill between 80,520 and 123,552 birds over the 30-year lifetime of the project. This is not a negligible take, especially considered in the context of additional leases owned (and all projects proposed) by the operator. Until better data are available, BOEM should be conservative in their analyses of take and skew towards over-protective rather than under-protective measures. BOEM should work with the USFWS, Revolution Wind, and all developers, to ensure avoidance, minimization and mitigation measures will offset loss to the maximum extent possible. These estimates only address direct mortality from collisions and do not include rates of mortality that might be driven by barrier effects and habitat loss. Barrier effects and displacement can have significant energetic costs for birds and can additionally result in increased foraging rates. Both can have consequences for individual survival and demography. Cumulative impact analyses should use quantitative assessments of the cumulative effects from wind farm build out in the OCS, including population viability analyses (PVMs) which consider changes in vital rates that result from both direct and indirect impacts. These PVMs are especially warranted for ESA-listed species. BOEM should also consider revising the cumulative impact level on birds from Negligible to Moderate.	stochastic collision risk model on a dozen marine bird species, and included information from offshore wind farms in Europe.
BOEM-2022-0045-0110	107	The FEIS should provide more certainty that the Lessee will use adaptive management practices for birds and collect "sufficiently robust" data to inform mitigation strategies to avoid and minimize impacts to birds. According to USFWS Land-Based Wind Energy Guidelines (2012),300 DOI has adopted the National Research Council's 2004 definition of adaptive management, which states: Adaptive management promotes flexible decision-making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders. The adaptive management strategies, or the mitigation (avoidance, minimization, and compensatory mitigation) of "potential adverse impacts," the specific methodologies of the frameworks for monitoring, adaptive management and mitigation should all be explicitly detailed in the FEIS. The DEIS claims that "exposure of bird populations has been avoided by siting the Project offshore in an offshore Wind Energy Area designated by BOEM."301 However, this assertion is contradicted by the Project's own justifications for environmental protection measures: [W]ide spacing of WTGs will allow avian species to avoid individual WTGs and minimize risk of potential collision…Revolution Wind will comply with FAA and USCG requirements for lighting while using lighting technology (e.g., low-intensity strobe lights) that minimizes impacts on avian species.302 Although deploying lighting technology to reduce collisions is an admirable action, as proposed this action is hardly a firm commitment. Should BOEM require it, this could provide an excellent opportunity to institute adaptive management—studying the efficacy of lighting technology to reduce collisions to inform best management at future wind farms.	The Avian and Bat Post-Construction Monitoring Framework is included in Appendix G and is an attachment to COP Appendix AA, which are publicly available on BOEM's website. Additional mitigation and monitoring measures, including adaptive management, may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval.

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		Instituting adaptive management, using lighting technology as an example, will require robust collision monitoring. Unfortunately, wholly inadequate information is provided in the DEIS that such adaptive management will in fact occur. Indeed, at this stage of development, the current level of detail is limited to vague or incomplete commitments: Revolution Wind is developing an Avian Post-Construction Monitoring Plan for the Project…Post-construction monitoring will assess impacts of the Project with the purpose of filling select information gaps and supporting validation of the Project's Avian Risk Assessment…Revolution Wind will document any dead (or injured) birds found incidentally on vessels and structures during construction, O&M, and decommissioning and provide an annual report to BOEM and USFWS303 As we have noted in this document and in other letters to BOEM, collecting bird carcasses cannot be reliably used for estimating collisions in the offshore environment. Instead, collision monitoring will need to use technology from which we can rapidly learn the variables contributing to collision risk and adjust management actions accordingly, including informed curtailment strategies as necessary. The framework for adaptive management should include operational adjustments that are reasonable and cost effective and include advances in detection and avoidance technology. For example, the adaptive management framework should consider smart curtailment if significant impacts are realized. These are practices used in adaptive management at some onshore wind facilities and in European Union offshore wind facilities. Their incorporation into the Revolution Wind FEIS will permit BOEM to require their adoption should there be significant avian fatalities from collision. An adaptive management framework requires a level of coordination and commitment that goes well beyond the Project and its operators. BOEM and USFWS must commit to providing a structure that ensures this across the offshore wind landscape.	
BOEM-2022-0045-0110	108	Given current limitations in minimization technologies for bird impacts, compensatory mitigation is another tool that should be used to offset adverse impacts of the Revolution Wind Project and high level recommendations for compensatory mitigation can be found in Attachment 3. As we note above, the DEIS provides an inadequate analysis for quantifying the absolute number of birds likely to be lost in collisions with turbines, and neglects to evaluate such numerical impacts on ESA listed species and nocturnal migrants. Further, the DEIS does not consider impacts to many of the species occurring in the area that are likely to be affected, resulting in what is likely a gross underestimate for potential losses of birds. The number of birds affected is uncertain due to the lack of available technology to accurately measure impacts (e.g., collisions) at the species level, or the fate of those birds after a collision event (e.g., injury, morbidity, or mortality). We further note that, as discussed above, the agencies still have conservation obligations under frameworks, including ESA and MBTA. Based on studies of ESA listed species alone (discussed above), it seems likely that birds protected by federal laws will be killed in collisions with turbines under the currently anticipated industry build-out scenario for the Atlantic OCS. As such, compensatory mitigation should be provided for bird mortality resulting from this development, and particularly for species of conservation concern. Directed mitigation can result in meaningful beneficial outcomes. For example, the Montrose restoration, a $63 million mitigation package compensated for migratory seabirds in Mexico, assisted with the recovery and delisting of Pacific Brown Pelican.304 Additional recommendations on how to effectively design appropriate levels of compensatory mitigation can be found in Attachment 3. Compensatory mitigation requirements under Section 7 of the ESA were essentially ignored by the previous administration. We urge the current administration to observe compensatory mitigation requirements for species currently listed and under listing consideration for the ESA which may be impacted by offshore wind development: Piping Plover, Red Knot, Roseate Tern, and Black-capped Petrel. Seabirds are long lived and have delayed maturity and low fecundity. These unique life-history traits require a substantial, long-term commitment to reach the offset needed. Given that compensatory mitigation is time-consuming from conception to successful implementation, we urge developers and agencies to commit to this and initiate action as soon as possible.	BOEM does not anticipate incidental take that would require compensatory mitigation as described in the BA (BOEM 2022) which is available on BOEM's website. The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is also publicly available on BOEM's website. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
BOEM-2022-0045-0110	123	Submitter provided additional attachment as follows: Offshore Wind Energy Potential Impacts, Monitoring Needs and Recommended Mitigation Measures for Bats and Birds	Thank you for your submission.

Commercial Fishing and For-Hire Recreational Fishing

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BOEM-2022-0045-0111	1	The Department's comments, which are supportive of responsible and sustainable offshore wind development, are intended to highlight New York State's interests in the Project's development and ensure that the needs and concerns of affected New York State stakeholders, specifically commercial and for-hire recreational fishing industries, are sufficiently considered and addressed. New York's robust fishing industries are of economic significance to the State and will be influenced by how BOEM's Draft Fisheries Mitigation Guidance2 is applied to the current tranche of offshore wind projects. The waters off Southern New England contain important fishing grounds for commercial vessels landing in New York State as well as encompass long-established routes to access productive fishing grounds far afield. New York State seeks to ensure that navigational safety is prioritized and that use conflicts between mariners and offshore wind development and operations are minimized to the maximum extent possible. In the DEIS, NYSDOS was pleased to see a quantitative analysis of fisheries economic exposure of the wind farm area and cable corridors, which encompasses the entire project area and should be the standard for all offshore wind environmental reviews. BOEM's other offshore wind EISs released this year have omitted the analysis for export cable corridors. BOEM's and the National Oceanic and Atmospheric Association (NOAA) Fisheries' commendable release of draft fisheries mitigation guidance articulates the importance of developing accurate revenue exposure estimates in order to evaluate the potential for income losses to fishing industries and the need for compensation. Including the cable corridor in this analysis ensures a more complete and accurate valuation of the revenue exposure estimate to inform forthcoming compensatory mitigation measures. NYSDOS was also pleased to see BOEM refine the typically broad study area stretching from Maine to North Carolina to analyze a well-defined and appropriate Regional Fisheries Area (see DEIS Figure 3.9-2). New York State has routinely commented that the range used to evaluate the average revenue and landings is too broad to evaluate a specific fishing area and leads to a diluted assessment of the overall effect on fisheries and fishing industries that may be affected by the Project. Establishing a project-specific Regional Fisheries Area should be the standard for all offshore wind environmental reviews. As BOEM prepares the Project's Final EIS, it should clearly articulate that a compensatory mitigation program: 1. Is needed to mitigate unavoidable adverse impacts to fishing industries; and 2. Must be inclusive, fair, and equitable so that demonstrated impacts can be offset regardless of where fishermen land their catch or where shoreside businesses are located	Thank you for your comment. BOEM has considered the recommendations provided in this comment and all feedback received on the DEIS and through consultations. Appendix F of the EIS has updated the comprehensive list of monitoring and mitigation being considered and evaluated.
BOEM-2022-0045-0089	1	We are very concerned with the speed that the Ocean that we use for fishing is being changed by activities related to the installation of wind turbines. Our members are reporting changes in the area surrounding the Block Island Wind Farm's 5 turbines and, in the areas, further to the south and east where geophysical surveys are being conducted prior to actual turbine construction. The proposed Revolution Wind project location and the location of the export cable includes many areas where our members routinely fish for cod, summer flounder, striped bass, tuna, sharks and many other species critically important to the economy of Rhode Island recreational fishing. We are particularly concerned that, due to unreasonable political pressure, this project will be permitted to move forward without proper consideration of ecological and fisheries impacts especially in light of the recent history of uncontrolled permitting of the South Fork Wind project on Cox Ledge in areas specifically noted by the OSAMP as Areas of Particular Concern because they are glacial moraines. We believe that the DEIS fails to identify the extent of recreational fishing, either in the form of "for-hire" or private boat fishing in the area of the turbines or along the cable route and therefore does not assess the potential impacts to recreational fishing.	As noted in the DEIS, BOEM excluded 70 miles of Cox Ledge from offshore wind energy development because of the importance of the area to for-hire recreational fishing and commercial fisheries. The description of for-hire recreational fishing in the Lease Area was based on the best available data from National Marine Fisheries Service. Data on for-hire recreational fishing along the export cable corridor were not available.
BOEM-2022-0045-0111	2	The process for determining eligibility for compensatory mitigation claims should be transparent, data-driven, and uncoupled from states' Coastal Zone Management Act (CZMA) reviews and, in so doing, provide compensation for demonstrated impacts to communities and businesses in a fair and equitable manner. New York does not have a CZMA review of the Revolution Wind project, yet Montauk, NY was identified as deriving 64% of average annual revenue from the Regional Analysis Area (see DEIS Table 3.9-8). Clearly, it is vitally important for New York fishermen to be eligible for compensation from demonstrated impacts due to offshore wind development. Therefore, NYSDOS supports the federal government working with states and affected stakeholders to calculate the compensation amount(s) through a regional framework.	Thank you for your comment. BOEM has considered the recommendations provided in this comment and all feedback received on the DEIS and through consultations. Appendix F of the EIS has updated the comprehensive list of monitoring and mitigation being considered and evaluated.
BOEM-2022-0045-0072	2	Another outstanding topic is the potential impact of the construction and operation of the RWF on the region's commercial and recreational fisheries. CZM has received and reviewed the draft fisheries exposure analysis dated September 14, 2022 and produced by Woods Hole Oceanographic Institution for RWF. Discussions between the proponent and state agencies on the	Thank you for the comment.

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		methodology and results are ongoing. The proponent should continue to coordinate with CZM and the Massachusetts Division of Marine Fisheries regarding potential economic exposure of Massachusetts fisheries to the RWF project and proposed compensatory mitigation to offset anticipated losses to the Massachusetts fishing industry as a result of the proposed project. The FEIS should include an updated economic exposure analysis, as necessary, and proposed mitigation resulting from these discussions	
BOEM-2022-0045-0070	2	It is our hope and expectation that final guidance for mitigating impacts on commercial and recreational fisheries related to project siting, design, navigation, access, safety measure and most importantly financial compensation will be completed before a final Environmental Impact Statement on the Project is finalized. It is also imperative that recreational fishing be considered in this category. We provided extensive comments regarding fisheries mitigation in our comment letter submitted to BOEM on August 22, 2022. A copy of that comment letter is attached. Our primary concern, which is also evident in this environmental impact statement, is the lack of enforceable measures relative to fisheries mitigation. We recommend that the language in the Project filing that reads "if adopted" be changed to "when adopted" and all measures be consistent with the final mitigation recommendations of BOEM. (Table 3.9-28. Proposed Mitigation Measures- Commercial Fisheries and For-Hire Recreational Fishing) We acknowledge and support the language in the filing that a compensation mitigation program "will mitigate "indefinite" impacts to a level where the fishing community would have to adjust somewhat to account for disruptions due to impacts, but income losses would be mitigated. (p. 3.9-77) We recognize that not all mitigation measures are within BOEM's statutory and regulatory authority but could be adopted and imposed by other governmental entities. Yet, we feel strongly that if BOEM decides to approve the Project's COP, then mitigation and monitoring must be clearly stated and identified. If such measures are not adopted, specific reasons for non-adoption must be presented and verified.	Thank you for your comment. BOEM has considered the recommendations provided in this comment and all feedback received on the DEIS and through consultations. Appendix F of the EIS includes an updated list of mitigation and monitoring measures considered and evaluated. Final mitigation measures will be outlined in the Record of Decision.
BOEM-2022-0045-0096	3	Impacts to commercial fisheries and for-hire recreational fisheries Included in Rhode Island CRMC's federally approved coastal management plan are enforceable policies used by the agency its review of offshore renewable energy projects, including the Revolution Wind Project. Ocean SAMP § 11.10.1(H) and (I) state the enforceable policies recognizing the importance of complex bottom habitat (i.e. glacial moraine) to the Rhode Island commercial and recreational fishing industries. See 650-RICR-20-00-11.10.1(H)-(I). The "finfish, shellfish, and crustacean species that are targeted by commercial and recreational fishermen rely on appropriate habitat at all stages of their lifecycles" and "spawning and nursery areas are especially important." Id. As stated above, large portions of the Proposed Action is sited in complex habitat, and despite the DEIS stating impacts to benthic habitat as being moderate adverse and moderate beneficial, the likely large scale death of millions of eggs, larvae and invertebrate species from WTG and IAC installation/operation will have long-term adverse impacts on the Rhode Island fishing industry. See DEIS at ES-7. Fishermen will likely be displaced from the area due to reduced catch and additional user conflicts will result. The Proposed Action does not align with the CRMC's enforceable policies regarding the protection of complex bottom habitat as it pertains to the commercial and recreational fishing industries. Minimizing the number of WTG positions in complex bottom habitat and reducing the footprint of IACs will aid in achieving this policy objective. An inability to achieve proper cable burial depth of 4-6ft below the seabed in complex hard bottom areas will create a navigational hazard and expose fishermen and the wind developer to unnecessary conflict. As previously stated, a large portion of the Project area is sited in complex hard bottom seabed. Cable burial tools will likely face difficulty in achieving proper burial depth which may in-turn lead to an increased amount of secondary cable protection in the form of articulated concrete mattresses. These mattresses present new hangs for fishermen and will force marine users to avoid an area all together, risk losing/damaging fishing gear, or modify fishing practices to avoid new hangs and potentially reduce their ability to fish economically. For example, there are seven known cable crossings for the export cable and the export cable will cross IAC two to four times. See DEIS at 2-21. Each cable crossing could require up to 1,640feet of secondary cable protection meaning up to 18,040feet (approximately 3.45miles) of secondary cable protection could be used. See DEIS at 2-14. This is not including cable protection that may be used near WTG foundations and OSS foundations. The best option to avoid adverse impacts from secondary cable protection and avoid creating new hangs for fishermen is to ensure cable burial depth where possible, minimize the number of WTG positions in hard bottom seabed and reduce the footprint of IACs.	Thank you for the comment. All of these concerns were considered and evaluated in the EIS, including alternatives that reduce the installation footprint in complex hard bottom habitats (see Alternative C). The feasibility of cable burial and secondary cable protection is based on assessment of seabed conditions, seabed mobility, the risk of interaction with external hazards such as fishing gear and vessel anchors, and a site-specific Cable Burial Risk Assessment. The burial depth requirement would be evaluated and applied to any action alternative, and BOEM can develop and apply any appropriate mitigation measures as a result. If adequate avoidance could not be achieved through mitigation, then BOEM could require an update to the COP that could require additional NEPA review.

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BOEM-2022-0045-0089	3	The Revolution Wind Rhode Island DEIS also fails to address OSAMP Areas of Particular Concern including moraines and is also located closer to ports used by RI recreational fishers and includes major disturbance into Narragansett Bay because of the proposed placement of the Export Cable.	The impact analysis of the DEIS notes that the installation of the offshore export and inter-array cables could temporarily restrict vessel movement and thus transit and harvesting activities along the RWEC.
BOEM-2022-0045-0069	3	RIDEM suggestions for BOEM on requirements for the developer: • Work with the Rhode Island commercial and recreational fishing industries to minimize impacts to fishing activities and the biological resources on which they rely to the greatest extent possible and offer appropriate mitigation plans if adverse impacts cannot be avoided. o Mitigation plans should be developed with substantial input from the Rhode Island Fishermen's Advisory Board (FAB) and the CRMC.	Thank you for your comment. BOEM has considered the recommendations provided in this comment and all feedback received on the DEIS and through consultations. Appendix F of the EIS includes an updated comprehensive list of monitoring and mitigation being considered and evaluated. Final mitigation measures will be outlined in the Record of Decision. The Revolution Wind COP includes a Fisheries and Benthic Monitoring Plan which has been incorporated into the EIS as part of the proposed action. The results of the surveys and monitoring efforts outlined in this plan will be distributed to researchers through participation in regional telemetry networks such as the Ocean Tracking Network or the Mid-Atlantic Acoustic Telemetry Network (MATOS), and provide valuable long-term data on fish populations and behavior in the project area. Revolution Wind will also disseminate the annual monitoring results through a webinar or an in-person meeting which will also offer an open forum for federal, state, and academic scientists to ask questions or provide feedback on the data collection protocols. Likewise, following each year of monitoring Revolution Wind will coordinate with the Contractor(s) to host an industry workshop to disseminate the results of the monitoring activities to local fishing industry members. Although all interested stakeholders will be invited to the industry workshops, concerted efforts will be made to ensure that members of the Rhode Island Fishermen's Advisory Board (FAB) and the Massachusetts Fisheries Working group attend.
BOEM-2022-0045-0065	3	BOEM's draft analysis recognizes the potentially major impacts to fishing, marine mammals, and navigation of the proposed project. Yet, no proposals offered by the fishing industry that would mitigate impacts from the Revolution Wind project were evaluated as alternatives in the DEIS, including clear, specific requests in RODA's comments on BOEM's project scoping process.6 These are summarized below; a full discussion is included in RODA's scoping comments (attached as Appendix I) and recent comments on the Ocean Wind DEIS (attached as Appendix III). 1. The Fisheries Communication Plan and Fisheries Monitoring Plan provided with the Construction and Operations Plan (COP) are deficient and were not timely provided to the public for comment.	Thank you for your comment. BOEM has considered the recommendations provided in this comment and all feedback received on the DEIS and through consultations. The Fisheries Research and Monitoring Plan was reviewed by state and federal agencies and revised by Revolution Wind to incorporate recommendations by those agencies. Appendix F of the EIS includes an updated comprehensive list of monitoring and mitigation being considered and evaluated.
BOEM-2022-0045-0098	4	There has been no effective mitigation by BOEM for fishermen and their fishing boats if a previously unearthed UXO is dragged up by a fishing boat. There should be a true liability analysis done as developers are not making clear where these devices are, and not notifying fishermen early, nor are they protecting them from future injury. All must be analyzed as part of the DEIS.	Notification procedures for MEC/UXO are consistent with the Department of Defense Environmental, Safety and Occupational Health Network and Information Exchange (DENIX) for Maritime Operations. In the event of a positively identified MEC/UXO, BOEM, BSEE, and other relevant agencies are notified by the lessee. In addition, there is a Local Notice to Mariners (LNM) filed which informs the communities the location of the MEC/UXO. A copy of the LNM is sent to NOAA for nautical chart inclusion. The identification of manmade hazards is required by 30 CFR 585.627 and 30 CFR 585.646, lease stipulations, and terms and conditions. BOEM has requirements for analyzing MEC/UXO risks that are outlined in "Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to Munitions and Explosives of Concern and Unexploded Ordinances." Projects that plan for mitigation methods like relocation, removal, or detonation, must analyze the impacts.
BOEM-2022-0045-0089	4	We believe that all disturbance inside of the COLREG line should be conducted during winter months to minimize impacts on the extensive use of this entire area by recreational fishing interests.	Thank you for your comment. Environmental Protection Measures (EPMs) committed to by the applicant are included in Table F-1 of EIS Appendix F. Additional mitigation measures are included in Tables F-2 and F-3 of EIS Appendix F.

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BOEM-2022-0045-0046	4	While this wind farm may have impacts to larger commercial fishery catches in the near future they will unlikely impact our small scale fishers and may benefit them (especially our recreational fishing guides). Are the impacts to small scale local fisheries being prioritized over large commercial fisheries?	The EIS assesses potential impacts to both large-scale and small-scale fisheries.
BOEM-2022-0045-0089	5	Potential short & long term impacts due to resuspension of toxic materials and turbidity increase must be assessed in detail.	The reader is referred to Section 3.21 for an analysis of impacts to water quality.
BOEM-2022-0045-0117	5	Thank you. I have to move that a little closer so I can see. I'm reading off my sheet of paper here, because I don't want to go over my five minutes. My name is Dave Monti, M-O-N-T-I. I'm a Charter Captain and Angler from Rhode Island. For 10 years, I kept my charter boat right down the street here in Greenwich Cove. And now my charter boat's in [Indiscernible], Rhode Island. I'm a Board Member at the American Saltwater Guides Association, an active Board Member of Rhode Island Saltwater Anglers, Vice Chair of the Rhode Island Marine Fisheries Council, and a Member of the Narragansett Bay Estuary Program Steering Committee, and the Rhode Island Party & Charter Boat Association. I thank BOEM, NOAA, the Army Corps, and all the other National and State Agencies, and the Revolution Windfarm for proposing and working on this project. Without it, we would miss out on badly needed renewable energy. The fish I catch today as a Charter Captain are vastly different in type and abundance due to climate-change impacts. The fishing industry needs renewable energy to help stem the tide on negative-climate impacts. This was heard loud and clear this spring at the University of Rhode Island Graduate School of Oceanography Baird Symposium on Climate Impacts on Recreational Fishing and Boating. One after another, Anglers, Recreational Fishing Industry Leaders, and Area Charter Captains testified how they are being impacted by climate. And Scientists, including the Chief Science Officer for NOAA, explained why we Anglers are experiencing these climate impacts. We need the Revolution Windfarm to help stem the tidal climate impacts. The Revolution Windfarm has acknowledged the importance of private recreational fishing and has reached out to Recreational Anglers with Leader interviews, surveys, in-person meetings, a series of online [indiscernible] throughout the pandemic, and research, research specifically for recreational significant data for stocks like [indiscernible]. Recreational Anglers are supportive of offshore wind as long as the farms are developed responsibility with research before, during, and after construction. Revolution Windfarm is being responsibility developed with an aggressive research and monitoring plan in place that Recreational and Commercial Fishermen helped develop, the kind of research and monitoring plan that every windfarm should have. Yes, I say there will be positive impacts as I honestly believe offshore windfarms will have a major positive impact on habitat and fish. A peer-reviewed mega analysis of multiple fish-abundant studies in Europe went on to relay its greater fish abundance inside windfarms than outside. And at Block Island, recreational fishing there is good, too, perhaps a bit better than before, even though fishing pressure has increased 200 percent. Fish there now include large striped bass and bluefish, in addition to scut, black seabass, lute, and cuttle. Spear Fishermen dive on the pylons. And Rod-and-Reel Anglers use eels to target striped bass right next to the pylons. At the Block Island Windfarm, gillnets, pots, trawlers, and Recreational Fishermen all fish in the same windfarm area. And this year, we had a seven-year study completed at the Block Island Windfarm. For all areas of the windfarm, in [indiscernible] areas, as well as in two control areas, results show that there is a great fish abundance of cod and black seabass in the windfarm. And every other species, it was just about even. The reef effect of the foundations and associated scour protection will have major positive impacts for fishing in the Revolution Windfarm, just as it had in Block Island. To summarize, I reject the idea that fishing will be worse in the Revolution Farm. It will likely be better, as science tells us. I understand the negative impacts during construction. And Fishermen should be compensated. But existing science and experience tells us there will be no long-term negative impacts, but rather positive impacts. As [indiscernible] by the Revolution Windfarm Draft Environmental Impact Statement, impacts will be negligible and often temporary. I encourage BOEM and all to approve the EIS and Construction Plan and allow this project to be built to generate the energy we need, while being sensitive to the environment and helping us stem the tide on climate impacts. Once again, thank you. And I am grateful for this opportunity to come here tonight.	Thank you for your comment. The adverse and beneficial impacts of the proposed action to Commercial Fisheries and For-Hire Recreational Fishing as well as Recreation and Tourism (including recreational fishing) were evaluated in Sections 3.9 and 3.18 of the EIS, respectively.
BOEM-2022-0045-0114	6	There is one area of analysis where an expansion of the categories would be beneficial. The current analysis approach combines "Commercial Fisheries and For- Hire Recreational Fisheries". Based on the depth of analyses compiled to date and the extensive comments provided by certain commercial fishing interests and recreational fishing advocates and charter boat captains, it is very clear that these two groups have decidedly different views of OSW. The commercial interests typically express a wide range of concerns and trepidations, while the recreational fishing interests are uniformly very positive and supportive, talcing particular note of the prospect of new productive "mini reef' environments at each WTG monopole/scour pad. In my opinion, separating the commercial and recreational fishing interests would make for a more informative analysis.	Thank you for your comment. Commercial and for-hire fisheries were analyzed collectively in an effort to streamline the assessment given the substantial overlap in IPFs and types of impacts to both categories. While opposition or support of the proposed project were not drivers for how BOEM conducted the analysis, the differences in impacts to each category, including potential beneficial impacts, were discussed throughout Section 3.9 and Appendix G.

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BOEM-2022-0045-0089	6	In addition, a preliminary review of the Fisheries Research and Monitoring Plan dated October 2021 identifies no plan for sampling using techniques employed by recreational fishing. As RISAA has commented for many years, this Plan must be expanded to include fisheries sampling using rod and reel surveys before, during, and after construction both in the turbine area and in the area planned for the export cable. In addition, a significant effort must be made to determine the value of recreational fishing in both of these areas. This project must not be allowed to continue the fallacy established by South Fork Wind that just because there are not good data quantifying the value of recreational fishing in some areas, then recreational fishing does not exist and is worthless. The proponents of this project have a responsibility to quantify the importance and value of existing recreational fishing through observation, survey, interviews, data review and whatever other methods are available prior to drafting any Impact Study on this proposed project. It is not acceptable to just say that recreational fishing does not exist, because it does exist and it is important to the RI economy and the livelihood of thousands of Rhode Islanders and it will be impacted by the proposed project.	Thank you for your comment. The Fisheries Research and Monitoring Plan was reviewed by state and federal agencies and revised by Revolution Wind to incorporate recommendations by those agencies. For-hire recreational fishing is analyzed in the Commercial Fisheries section of the EIS. Private recreational fishing is analyzed in the Recreation and Tourism section of the EIS.
BOEM-2022-0045-0086	6	Along with the environmental benefits of these artificial reefs, these habitats are expected to result in increased opportunities for recreational anglers in the region. The number of trips is expected to increase for private recreational anglers as well as charter and party vessels. Additional revenues are expected for charter and party vessels as a result of the Project.	The potential benefits of the proposed project to for-hire recreation fishing, including those associated with artificial reef effects, are described in Section 3.9.2 of the EIS.
BOEM-2022-0045-0117	6	Good everything, everyone. Probably would have made more sense if I spoke before some of the guys who work with us. But my words aren't nearly as important as the Fishermen who are directly affected by this. So, I appreciate the opportunity to speak. Gordon Videll, V-I-D-E-L-L, and I'm the CEO of Sea Services North America. And essentially what we are is a consortium of working Fishermen who -- that range from Massachusetts to Virginia. And we're expanding rapidly. Our mission to increase commercial fishing safety and provide Fishermen with the opportunity to work as scout and safety vessels to Offshore Developers. And I just have to say none of this would be possible without Ørsted's absolute commitment to working with the Fishermen. And they reached out to a lot of people. And we were lucky enough to continue those conversations and build a trust. And here we are. So, now, we have eight boats being prepared for this project. And Ørsted is solely responsible for doing that. Now, eight boats may not sound like a lot. But that's eight boats for this project times five, six Crewmembers. That's real money for real families in real communities. So it couldn't be more important. We want to thank BOEM and the Staff for the years of effort that has gone into this. We appreciate it. And I think that everybody who's actually read the Plan understands their level of commitment to getting this right. And we all appreciate that. But I also want to say that no plan's perfect. But what you've done, coupled with Ørsted's commitment to the fishermen of the community, is a pretty good start. And we're very thankful for all of that. The national security and general welfare require a vast number of energy sources. And offshore wind is a significant piece of the solution. Our Fishermen Partners didn't run to that idea. But they've gotten there. And it's through education. It's hard work. And it's a trust-building exercise. And now that they're seeing the benefits, like I said, we are expanding very quickly. And they're seeing real benefits. The work they're doing here, it will be very consistent, as opposed to the problems they have with fishing. I mean, we have quota issues. We have Regulation issues. We have climate change. And we have ongoing problems staffing a lot of the posts. So we're working with the Workforce People hopefully on some of this stuff, as well. But what we've come to -- they've come to understand is the negative impacts -- and we can't say there's not going to be any disruption. We know there is. But the benefits are to the Fishermen and the communities, far outweigh the negative -- the very short-term negatives. There are many factors that we have to contend with. Like I said, the Commercial Fishermen, it's not easy work. And oftentimes, it ebb-and-flows, pun intended. But this works up letting their fishing -- gives them a career. And that couldn't be more important for these struggling fishing communities. As I said, from actively preparing eight boats for this project, we're currently working with 15 boats. And we need 45 boats with the people we're negotiating with now, like I said, from Virginia to Massachusetts. So there's an opportunity for a lot of people. And we hope the Fishermen contact us. We have a lot of outreach going and we're pretty busy. And there's an opportunity for everybody. And Ørsted is to thank for that. They're bringing Fishermen to the table. And that wasn't happening until they engaged us with a significant Framework Agreement that we've been building on. And I'll just close with this. We have to weigh our need for energy against the small disruption to the environment, Fishermen, and the effected communities. We've seen firsthand benefit of working together. And we hope everyone understands BOEM's hard work so far, and also understands the commitment that Ørsted's put forth. I'd love to share more of this story with everybody. But it's been absolutely overwhelming. And there is a commitment here that I don't think anybody would have expected. So we're looking for -- to help. And we believe that you guys have done a great job. And we hope that this goes forward as quickly as possible.	Thank you for the comment.

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BOEM-2022-0045-0114	7	The Habitat alternatives effectively remove the center section of the Lease Area (as many as 36 WTG positions over - 30,000 acres of sea bottom). The area in question is considered to be complex fisheries habitat by NMFS. While an important consideration, elimination of this many WGT positions, each of which accounts for less than 1 acre of permanent alteration, is, in my opinion, overkill and far out of balance with the possible fisheries benefit.	Thank you for your comment. BOEM has considered these issues in the FEIS and has identified a preferred alternative in Section 2.1.7 of the EIS.
BOEM-2022-0045-0118	7	And moving forward, at least pursue some sort of mechanism where Fishermen can benefit from upgrading their equipment, either the Developers or somebody putting forward some money to fund that, because it is an issue and it will be an issue.	Thank you for the comment.
BOEM-2022-0045-0059	8	UXO is also a problem for fisheries, and these impacts have not been fully discussed or analyzed in the DEIS. As demonstrated by the attached Orsted Mariners Briefing, UXO is already being unearthed discovered before the FEIS/ROD for the Revolution Wind project. UXO unearthed by developer activity presents a very real safety hazard for fishing vessels and crew, as well as contamination of catch or destruction of resource. Not only can UXO contain explosives; it can also contain nerve agents or burn agents such as mustard gas. For example, in 2010, a commercial fishing vessel encountered mustard gas while fishing, hospitalizing some crew and causing quarantine of the vessel and remaining crew aboard and51 the 504,000 lbs of clam harvested by the vessel to be destroyed.52 Again, in 2016, a commercial clam vessel pulled up UXO, causing second degree burns to crew and the destruction of over 700 cases of chowder.53 A commercial fishing vessel in the UK recently encountered UXO, injuring all crew members aboard,54 and US fishermen hauling aboard UXO in the past have been forced to scuttle their vessel, taking years to recover losses with payment from the government.55 Most recently, Vineyard Wind, a project with a BOEM-approved ROD, has dug up dug up a 1000 lb UXO from roughly 100 feet beneath the seabed.56 This UXO, formerly buried 100 feet below the surface so as not to interact with commercial fishing vessels operating in the area, has now been sitting on top of the ocean floor in a heavily fished area since the month of July.57 This UXO now presents a life threatening hazard to commercial fishermen working in the area, yet BOEM does not require any developer action to be taken other than noticing to the USCG and preparing UXO survey planning for BOEM related to construction. 58 BOEM requires no apparent standard procedure for UXO removal/detonation, nothing to ensure the safety of commercial fishermen operating in the area, nor any impacts analysis conducted on marine mammals regarding UXO removal/detonation. This is arbitrary and capricious. It is also a violation of the OSCLA requirement for “safety”. This is not acceptable. UXO cannot be continued to be unearthed by developers and left on commercial fishing grounds, with no lease or permit requirements to safely dispose of the UXO in a manner that both provides for safety of US commercial fishermen per OSCLA and protection of critically endangered species per the ESA. Clearly, given the information contained above in this comment, this is not currently being achieved by BOEM in the DEIS nor by the developer’s COP. Neither are there mitigation or compensation proposals related to UXO- induced injury, vessel damage, or loss of product caused by offshore wind construction activities found anywhere in BOEM’s Draft Fisheries Mitigation Guidance document. These are glaring omissions, and we request that they be included and analyzed in the Revolution Wind DEIS. Revolution Wind’s own COP states that the developer plans to address UXO via one of three methods: detonation, low-order burnout, or relocation59 . Each method will have its own potential adverse impacts and require its own analysis. UXO detonation causes obvious problems for marine mammals, fish and wildlife, whereas low-order plasma burnout of the UXO will often result in sea pollution through the deposit of hazardous waste on the seabed and still carries the consequences of unintended explosion, issues being acknowledged in the UK as problematic to the nation’s offshore wind ambitions. Relocation poses a safety risk for bottom tending fisheries, which cannot be ignored due to BOEM’s legislative mandate to conduct offshore wind leasing in a manner that provides for safety, and also carries the risk of accidental detonation. The Revolution Wind DEIS does not comprehensively address any of these issues, whether from a safety standard for commercial fishing vessels and crew per OSCLA, nor a biological perspective re Endangered Species Act requirements for North Atlantic right whales, nor a Clean Water Act perspective should low-order plasma burnout be selected. All UXO options- detonation, low-order burnout, relocation- must have a thorough and comprehensive analysis, with endangered North Atlantic right whales receiving their specific own section, for full compliance with the relevant laws, including NEPA, OSCLA and the Clean Water Act.	Notification procedures for MEC/UXO are consistent with the Department of Defense Environmental, Safety and Occupational Health Network and Information Exchange (DENIX) for Maritime Operations. In the event of a positively identified MEC/UXO, BOEM, BSEE, and other relevant agencies are notified by the lessee. In addition, there is a Local Notice to Mariners filed which informs the communities the location of the MEC/UXO. A copy of the LNM is sent to NOAA for nautical chart inclusion. The identification of manmade hazards is required by 30 CFR 585.627 and 30 CFR 585.646, lease stipulations, and terms and conditions. BOEM has requirements for analyzing MEC/UXO risks that are outlined in “Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to Munitions and Explosives of Concern and Unexploded Ordinances.” Projects that plan for mitigation methods like relocation, removal, or detonation, must analyze the impacts.
BOEM-2022-0045-0118	8	The second thing is the inter-array cabling. I know that there was a comment that the 1 nautical mile limit enables the movement of vessels and fishing. I would say that if you overlay the inter-array cabling on that, it becomes more of an issue. So, to the degree possible, we suggest the Developers be required to make inter-array cabling consistent among all of the arrays, so that there are corridors where it's easy to do a dredge or a trawl, or anything else, so that there isn't cable conflict,	Burial of the cables would typically target a depth of 4 to 6 feet below the seafloor to the maximum extent practicable. Cable protection in the form of rock berms, rock bags, and/or mattresses would be installed on the IAC and OSS-link cable where burial cannot occur, where sufficient burial depth cannot be achieved because of seafloor conditions, or to avoid risk of interaction with external hazards as determined necessary by the cable burial

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		because, if you look at the inter-array cabling on this, there are a couple instances where you'll see it's not very consistent, and then it's sort of problematic for one, if you're doing any kind of length in trawl, or any sort of fishing line on the bottom.	risk assessment, and where the cables cross existing submarine assets. The COP estimates up to 10% of the route for each IAC would require cable protection and the lessee will provide the location of all cables and associated cable protection to NOAA's Office of Coast Survey after installation for inclusion on nautical charts.
BOEM-2022-0045-0114	9	The Commercial/Recreational Fishing Assessment (Section 3.9) spans some 78 pages of dense text in the DEIS proper. The writeup is very thorough but forces the reader to search for specific data and perspective on the 83,798 acre Revolution Wind lease area. For example, on page 3.9-14, the reader learns that "As shown in Figures G-1 through G-13 in Appendix G, the commercial fishing revenue for most FMP fisheries was a low level of intensity within the Lease Area and along the RWEC compared to adjacent areas ... ". The point is driven home by Table 3.9-9 which indicates that the average annual revenue generated by FPV in the entire Lease Area was $1,059,000 or less than $13 per acre (2008-2019 data). The leading species on a revenue basis was American lobster. This fixed gear fishery should not be affected in any significant way by WTG operation. The next two biggest revenue species are sea scallops anp monkfish. As previously noted, the Project which will generate electric power worth ~ $270 million per year, thus it can obviously cover potential fishing revenue losses, even under a conservative scenario where the entire lease area FPV catch ($1,059,000) is foregone during construction. Examined another way, the Projects' more than 1,500,000 tons per year of avoided CO2 emissions would have a value on the order of $75 million per year based on EPA's $50 per ton valuation (social cost of carbon). Notwithstanding these numbers, BOEM rates the Proposed Action impact on fisheries as "Minor to major adverse" (Table ES-2). Oddly, the No Action alternative is rated as Moderate to Major for commercial fisheries. What is the logic for these ratings?	Definitions of impact levels applied in the EIS are provided in section 3.3 of the EIS. The impact conclusions in Table ES-2 of the DEIS have been clarified and include impact determinations for the proposed action in comparison to both the existing baseline as well as in the context of cumulative activities. Appendix E (Planned Activities Scenario) describes the methodology used for assessing impacts from planned activities in the EIS. The geographic analysis area (GAA) is not used as a basis for analyzing the effects of the Proposed Action, which represent a subset of these broader effects and expressed over a smaller area. Thus, while Project-related impacts to fisheries are restricted to a relatively smaller geographic area, the GAA for Project impacts in the context of cumulative activities is necessarily large due to the range of the fisheries potentially affected by the action. The Conclusion section within each alternative analysis discussion includes rationale for the effects determinations. Under all of the alternatives, the overall impact to commercial fisheries and for-hire recreational fishing from any alternative would be moderate adverse as (a) mitigation would reduce adverse impacts substantially during the life of the proposed Project; (b) the affected activity or community would have to adjust somewhat to account for disruptions due to notable and measurable adverse impacts of the Project; or (c) once the impacting agent is gone, the affected activity or community, including traditional cultural practices, is expected to return to a condition with no measurable impacts, when remedial or mitigating action is taken. Considering all the IPFs together, BOEM anticipates that the overall impacts associated with the Proposed Action when combined with past, present, and reasonably foreseeable activities would result in an overall long-term major adverse impact because some commercial and for-hire recreational fisheries and fishing operations would experience substantial disruptions indefinitely even if remedial action is taken. This impact level is primarily driven by climate change, fisheries management activities, and the presence of offshore structures from cumulative offshore wind development within the GAA.
BOEM-2022-0045-0059	9	Based on BOEM's previous lack of accurate assessment of commercial fishing impacts, which we detail in our comments on BOEM's Draft Fisheries Mitigation Guidance (BOEM-2022-0033-0003)61 which we incorporate into this comment by reference, we do not have confidence that BOEM has conducted an accurate and comprehensive commercial fishing impacts analysis. Therefore, we request that BOEM make public all its models and numbers for calculating fisheries impacts so that they can be replicated by an industry economist and compared with other economic fisheries studies we have provided BOEM in the past. We request that this information be provided prior to the finalization of the Revolution Wind EIS.	Appendix G of the EIS provides an overview of the commercial fisheries data used in Section 3.9. It also provides a description of the methodologies and assumptions used to describe the dependency of fishermen on the Lease Area and to generate fishery exposure estimates with further information available at the links and reports provided within the literature cited.
BOEM-2022-0045-0118	9	My main comment would be the future. As was pointed out by two commenters, uncertainty sort of rules the day here. We don't know where we will be from a fishing standpoint, from a stock standpoint five years from now, 10 years from now. It's uncertain. So it's not to suggest that this shouldn't be build. But what I would suggest is that BOEM commit to follow-up, either in the EIR or in the COP, to say that, five years from now, a Developer needs to, as I said, put their money where their mouth was. They've said they won't have an impact on fishing. Fine; understood. And that means somebody needs to take that into account in the EIR. What we're saying is the burden shouldn't be five years from now on the Fishermen to come back and say, you did have an impact. The burden should be on the Developer five years from now to take some studies, go to NOAA, find the stats, and come back to BOEM and say, look, we aren't having an impact, because it's not fair to take their word for it now and then require Fisherman five years from now, 10 years from now, to be the ones to come forward and say, you actually did have an impact on us. So if you're going to take the Developer's word for it now, what we're suggesting is there needs to be a built-in review period at some point in the future consistently, so that you're monitoring that and not just taking their word for it.	Thank you for the comment. Post-construction monitoring measures are required for several resource areas (e.g., benthic habitat), but are not currently required for commercial fisheries revenue and landings. Analyses of projected economic exposure are provided in the EIS Section 3.9.

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BOEM-2022-0045-0114	10	My puzzlement continues when I read that the overall cumulative impact to commercial fisheries (and for hire recreational fishing) would be "major adverse". Some insights are provided beginning on page 3.9-40. On page 3.9-44, BOEM explains that a very small fraction of vessels (0.9%) generated over 50% of their annual revenue from one or more lease areas, thus ascribing a moderate to major score on this basis. Given the ability of vessels to fish other areas, this seems like the tail wagging the dog. The real issue faced by commercial fishermen is migrating/thinning stocks based on ocean warming, increasing acidification and in some instances overfishing and the ensuing management measures. If changes in ocean conditions are to be limited, clean OSW must be an important part of the solution. Granted, no one project will make a significant difference in a global problem, but a 1.5 million ton per year CO2 reduction from a single OSW project is a very positive and productive move. Multiply this by the OSW projects on the books, and those that will follow, and the US is making a serious contribution towards dealing with global climate change. I really think BOEM needs to rework this "logic" and put potential fisheries impacts from the Project in a far more balanced perspective.	Thank you for the comment. The "major" impact level is primarily driven by climate change, fisheries management activities, and the presence of offshore structures. The majority of offshore structures in the GAA for commercial fisheries would be attributable to the offshore wind industry. The potential reductions in GHG emissions from offshore wind is also considered in the EIS.
BOEM-2022-0045-0118	10	I hear the word "impact". The placement of the five turbines in Rhode Island, the Fishermen in Sector 13 now fish 13 miles further out to sea because of that, verified by their BMS box. Also, the five turbines have now attracted invasive species. We have to protect the environment that's there now. I'm always amazed that the Environmentalists don't really speak up to the environment as it is today and what it will be in the future.	Thank you for the comment. Potential introduction of invasive species were considered in the EIS analysis. The potential impacts from the project were evaluated in the context of current conditions (i.e., existing baseline) as well as in the context of future conditions (i.e., cumulative impact assessment).
BOEM-2022-0045-0071	11	The DEIS describes commercial and recreational fisheries within the lease area and the export cable corridor. Some fisheries will be impacted by activities within both the lease area and the export cable corridor, while other fisheries will be primarily impacted by one or the other. It is important to consider the differences in impacts due to the different activities which will occur in the lease area and the cable corridor and the different fisheries that operate in those areas. Different mitigation measures may also be relevant for the two areas. For these reasons, we support the approach of analyzing the lease area and export cable corridor separately in terms of their impacts on fisheries, as well as considering their combined impacts. This approach should be carried forward in future analyses of other wind projects.	Thank you for your comment.
BOEM-2022-0045-0100	12	Fisheries Analysis: The fisheries data used in the analysis at large are incomplete, outdated, and do not reflect all of the metrics we suggested BOEM evaluate during our review of the PDEIS. The analysis does not consider impacts to fisheries not fully captured by Vessel Trip Report (VTR) data, including highly migratory species, lobsters, and conch, and does not discuss the number of vessels and trips affected by each alternative. Further, some of the data used to analyze project areas reflect outdated shapefiles on our website from 2021 including the Revolution Wind project area that is smaller than that identified in the EIS (see attached technical comments). Thus, the project-specific and cumulative impact analysis should be updated in the Final EIS, as necessary, based on the most accurate project areas.	Thank you for the comment. The data in the regional tables in the Affected Environment (Tables 3.9-1 through 3.9-8) have not been updated because these data are used to make regional comparisons in the revenue-at-risk estimates presented in the impact analysis for the action alternatives. For the Lease Area tables in the Affected Environment (Tables 3.9-9 through 3.9-12) the Final EIS includes the 2008-2019 data, but the data for these tables for 2020-2021 was downloaded from the NMFS GARFO website and included in Appendix G for reference. For the for-hire recreational fishing tables in the Affected Environment, the data was updated to 2008-2019 in the Final EIS for consistency with the commercial fisheries tables. In addition, a map showing the distribution of highly migratory species recreational fishing effort for 2002–2019 has been added. A note describing the limitations of the VTR data has been added to tables where applicable. Vessel trip and vessel number data was added to the impact analysis for each action alternative in the Final EIS.
BOEM-2022-0045-0071	12	We appreciate that Section 3.9 lists not only the average annual ex-vessel value for many important fisheries in this region, but also includes the peak annual revenue over a 10-year time period. Fisheries revenues can fluctuate for a variety of reasons; therefore, an average value may not always accurately describe the economic value of the fishery.	Thank you for your comment.
BOEM-2022-0045-0059	13	The DEIS concludes that impacts to commercial fisheries from cable placement and maintenance is long term, but only negligible to minor adverse. This is because BOEM expects that all cables will be buried and remain buried.74 Not only has the opposite been proven to be true in Europe, as we highly detailed in our Vineyard Wind SEIS comments on pages 38-43 and which we incorporate here by reference,75 but BOEM continues to view cable impacts in a vacuum. Significant numbers of cables already exist on the US Atlantic OCS. We have attached a NOAA cable chart of Southern New England/NY Bight as part of this comment. None of these existing cables contain the high electric voltages planned for offshore wind cables and therefore present less of a hazard. However, the cables from Revolution Wind and all other East Coast offshore wind projects will create cumulative impacts on top of these pre-existing cables, necessitate many cable crossings and associated cable mattresses/rock armoring, and related cable failures and maintenance. The East Coast is soon to become a spiderweb of hazardous, high voltage cables containing many overlaps with existing cables and each other, resulting in lost fishing grounds for mobile bottom tending gear. The Revolution Wind COP estimates one third of a mile of cable protection-including rock	A coastwide cumulative analysis of existing and proposed cables is beyond the scope of the Revolution Wind EIS. BOEM has included a boulder relocation mitigation measure in the FEIS which seeks to minimize the number of potential seafloor obstructions that may interact with bottom trawl commercial fisheries (see proposed mitigation measures in the EIS, Appendix F, Table F-2 and Table F-3).

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		berm, rock bags, concrete mattresses- will be required for each cable crossing.76 Considering the number of cable crossings that will be occurring throughout the region, this carries considerable potential for interruption with commercial fishing operations. We request that BOEM conduct a coastwide cumulative cable analysis and include this analysis as part of the Revolution Wind DEIS. Maintenance of existing cables damaged by rock armoring will also become an issue for commercial fishing operations around armored cable areas. Orsted, the developer applying for Revolution Wind approval, has already run into significant problems with its armored cables in the UK and Europe. Last year, 10 of Orsted's UK and European offshore wind farms required cable repair because the subsea cables had been eroded by scour protection placed by the developer.77 The more cable crossings, the more armoring necessary, the more probability of cable erosion and failure, and the more maintenance required, resulting in exclusion zones for commercial vessels while repairs are completed. Additionally, the DEIS does not analyze impacts to commercial fishing from boulder relocation during cable laying activities. This is a glaring omission. The DEIS only analyzes boulder relocation impacts to other affected resources. Boulders present a threat to commercial fishing gear and commercial fishing operations. Boulder relocation from currently rocky bottom into potentially smooth bottom utilized by mobile bottom tending gear vessels represents a loss of fishable area. The cumulative impact of the Proposed Action together with other planned and approved projects presents the potential for significant changes to ocean bottom currently fished by commercial vessels. For the South Fork Wind Farm alone, a project containing only 15 turbines, Orsted expects to relocate 900 boulders.78 For a project such as Revolution Wind, which is proposing 100 turbines, will the number be exponentially higher? We request that BOEM include estimates of number of boulders expected to be relocated for the Revolution Wind project, including cable routes, in the DEIS. These numbers are important for analysis purposes and a Cumulative Impact cables analysis. We also request that BOEM consider the enormity of the boulder plow equipment, available for viewing here: https://www.youtube.com/watch?v=8p7NV3fnYa8, and include the plowing of potentially hundreds or thousands of boulders in the project area (depending on the numbers estimated) in its impacts analysis to benthic habitats and EFH.	
BOEM-2022-0045-0071	13	We did not find estimates of impacts to private recreational anglers in the DEIS, only for-hire recreational fishing. The FEIS should estimate impacts to this user group.	The potential impacts of the proposed project to private recreational anglers are described in the recreation and tourism analysis in Section 3.18.
BOEM-2022-0045-0069	15	The developer has considered a variety of offshore fishing data sources: vessel trip reports (VTRs), vessel monitoring systems, and Marine Recreational Information Program data. Each data source has merits and limitations, as none of these data reporting systems were designed to assess the spatial distribution and value of offshore catch. A variety of studies are currently underway to generate additional data sharing systems and assessment tools. • Other sources of data and improved methods should be incorporated into impact assessment as they become available. For example, vessel monitoring system (VMS), automatic identification system (AIS), and electronic monitoring data are becoming more prevalent and may present opportunities to improve upon existing methods. These data may offer higher spatial and temporal resolutions, and address challenges associated with self-reporting, when compared to VTRs. • Additional methods are particularly needed to understand potential changes to recreational fishing activities.	The analysis of impacts to commercial and for-hire recreational fishing in the EIS is based on the best information available at the time.
BOEM-2022-0045-0071	17	We have been tracking communications from the Southern New England developers related to unexploded ordnance (UXO) uncovered during site preparation activities. Exposed UXO presents a significant risk to mariners, especially those towing mobile gear that could bring UXO to the surface. While UXO is a known ongoing risk that mariners are already aware of, offshore wind construction activities are uncovering several devices. We recommend that the terms and conditions specify that developers are responsible for the disposal of UXO unearthed due to construction activities. Clear, timely, and repeated communication about UXO locations prior to removal is essential, beyond the weekly email mariner updates.	Notification procedures for MEC/UXO are consistent with the Department of Defense Environmental, Safety and Occupational Health Network and Information Exchange (DENIX) for Maritime Operations. In the event of a positively identified MEC/UXO, BOEM, BSEE, and other relevant agencies are notified by the lessee. In addition, there is a Local Notice to Mariners (LNM) filed which informs the communities the location of the MEC/UXO. A copy of the LNM is sent to NOAA for nautical chart inclusion. The identification of manmade hazards is required by 30 CFR 585.627 and 30 CFR 585.646, lease stipulations, and terms and conditions. BOEM has requirements for analyzing MEC/UXO risks that are outlined in "Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to Munitions and Explosives of Concern and Unexploded Ordinances." Projects that plan for mitigation methods like relocation, removal, or detonation, must analyze the impacts.

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BOEM-2022-0045-0071	18	When boulders are relocated with grabs (as opposed to pushed out of the way with plows), they will be placed elsewhere within the lease area. We recommend developing a clear strategy for boulder relocation that is protective of habitats in the area, potentially relocating them to soft bottom directly adjacent to existing hard bottom areas. Mobile gear fishing activity should be considered when planning specific placement options; relocation areas with similar habitat impacts might have higher or lower potential for conflict with trawling and dredging activities. We also recommend using grabs to relocate boulders whenever possible, vs. relying on plowing. The COP assumes that a boulder plow could be used in all areas of higher boulder concentrations, conservatively estimated at up to 80% of the entire interarray cable network. Plowing will have a much larger impact on benthic habitats as compared to grabs. Recreational fishermen often set gear on boulder habitats. We recommend that habitat maps post boulder relocation be made available to the recreational and commercial fishing communities and others.	Thank you for the comment. BOEM has included a boulder relocation mitigation measure in the FEIS which seeks to minimize the number of potential seafloor obstructions that may interact with bottom trawl commercial fisheries (see mitigation measures in the EIS, Appendix F).
BOEM-2022-0045-0086	27	Revolution Wind would like to respectfully clarify that much of the area described does not cover the boundaries of Revolution Wind, which is mostly contained within two National Oceanic and Atmospheric Administration (NOAA) Statistical Areas, 537 and 539. It would be beneficial to the Project as well as to the public to include a further description as to why other areas were included in this Regional Fishing Area with respect to Revolution Wind.	As described in Section 3.9.1 of the DEIS, the Regional Fisheries Area provides a reference area for assessing the relative importance of the Lease Area and RWEC corridor to regional fisheries of importance to commercial fishing fleets based in Rhode Island, Massachusetts, and New York ports.
BOEM-2022-0045-0086	29	Similar corrections should be made in Section 3.9.2, Impacts on Commercial Fisheries and For-Hire Recreational Fishing. In Table 3.9-24 and Section 3.9.1.2, a major adverse finding was made for the No Action Alternative on the basis that fisheries management regulations designated to protect North Atlantic Right Whale (NARW) would adversely impact commercial fisheries. The same finding was carried through to the build alternatives for the same reason. The major adverse finding is not a result of any of the build alternatives.	The impact determination of major adverse is based on the impacts of the build alternatives when combined with the impacts of present and other reasonably foreseeable activities. The No Action alternative includes consideration of future offshore wind projects within the geographic analysis area as part of the cumulative impacts assessment. BOEM maintains that the cumulative offshore wind projects in the geographic analysis area, along with fisheries management regulations to protect North Atlantic right whales, could potentially have major adverse impacts to commercial fisheries.
BOEM-2022-0045-0100	42	Please update project-specific analysis and discussion to correct for outdated shapefiles of the Revolution Wind project data acquired from references NMFS 2021b and NMFS 2021c. This issue affects Tables 3.9-9, -19, -20, -21, and -22 and associated narrative discussions on pages 3.9-14 and 3.9-20. These sources include landings and revenue data for the Revolution Wind and other project areas posted on the NMFS GARFO website and accessed August 7, 2021. The wind energy areas available at those times have since changed. In addition, the shapefile used to generate our socioeconomic impact report and data for Revolution Wind lease area is smaller and inconsistent with the shape identified in the DEIS (see image). Although we have not evaluated the difference between the areas, resulting analysis will underestimate fishery impacts for any analysis using that data due to the evaluation of a smaller area than the area proposed. Therefore, the information used based on reports on our website should be updated based on the full lease area. The data provided by a specific data request in January 2022 (referenced as NMFS 2022) is not affected by this issue.	Table 3.9-9 used data from the specified data request in January 2022, and therefore used the correct shapefiles of the Revolution Wind project. No data revisions are necessary. For all the Lease Area tables in the Affected Environment (Tables 3.9-9 through 3.9-12) the Final EIS includes the 2008-2019 data, but the data for these tables for 2020-2021 was downloaded from the NMFS GARFO website and included in Appendix G for reference. The for-hire recreational fishing tables was updated in the Final EIS using 2008-2019 data from the NMFS GARFO website.
BOEM-2022-0045-0100	43	For tables and narrative descriptions of regional analysis using federal VTR data (Tables 3.9-1 through 16,Table 3.9-19 through 22, Table 3.9-25 through 27, Figure 3.9-6), please note in each instance that federal VTR data likely substantially underestimate landings and revenue for state-managed fisheries (conch, menhaden, etc.) and lobster, particularly for Maine lobster vessels, due to historical and existing reporting requirements. Therefore, any regional estimates of landings and revenue will be underestimated due to limited data on such fishing activity. Please see the data limitations listed in Appendix A of BOEM's Draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/Appendix%20A%2006232022_0.pdf and our data limitations at https://media.fisheries.noaa.gov/2022-02/Socioeconomic-InfoNeeds-OSW-GARFO.pdf.	Thank you for the comment. Additional text has been added.
BOEM-2022-0045-0100	45	In all tables, please clarify how revenue were adjusted for inflation to ensure consistency with data provided by NMFS and used in other tables. Use of different inflation methods can result in different estimates. Totals for each table would also help validate some percentage conclusions listed in the text, but not in the tables themselves (e.g., Table 3.9-10 indicates skates represented 30% of total landings from the lease area, but no totals are provided and the other columns do not show this information).	Text has been added to table notes where appropriate in Section 3.9 indicating the revenues are adjusted to 2019 dollars using the GDP Implicit Price Deflator.
BOEM-2022-0045-0100	46	Social impacts to fisheries are not analyzed here or in the cultural impacts section. In the Affected Environment section for fisheries, insert a discussion of and applicable references to social and well-being impacts of fishing industry participants. Fisheries are part of social-ecological systems that take into account inter-relationships between ecological functions and	A reference to the Community Profiles for Northeast U.S. Marine Fisheries prepared by Colburn et al. (2010) has been added to the affected environment, and a qualitative discussion of potential socioeconomic impacts on commercial fisheries has been included

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		human communities that depend on ecosystem services for their well-being. As previously commented, the DEIS has limitations in understanding full impacts without considering social impacts that go beyond ex-vessel landings. Similar to assessing the economic impacts based on historic catch and VMS data, discussion of and research on social wellbeing in the region should be discussed where available to consider the full impacts of the alternatives. The brief discussions on cultural importance and identity can be supported by numerous studies on traditional values and historical significance of fishing areas in the region. Examples of available social research include: 1) Job satisfaction and well-being studies, including safety considerations, have been done in the region for decades -see Pollnac et al. (2014) and it's citations, Smith and Clay (2010), 2) Silva et al. 2021, Cutler et al. 2022 and Henry and Olson (2014) provides an overview of commercial fishing crew demographics and changes over time. 3) Resilience and vulnerability data can be found at Jepson and Colburn (2013). A study was also done on commercial and recreational fishing industry's adaptive capacity in NY and NJ (Seara et al. 2012). Well-being topics relevant to offshore wind are listed below based on Van Holt et al. (2016) and Smith et al. 2020 and should be considered in BOEM's impact assessment with description of relevant research in the region. Where data is not available this should also be noted. Well-being objectives to consider include: Impacts to income and employment, infrastructure investment, community economic impacts, equitable distribution of fisheries benefits, maintaining fishing opportunities for small-scale operators, reducing conflict in the fishery, improving safety at sea, promoting food security, and maintaining cultural importance of fishing to the community.	in the Presence of Structures IPF. In addition, gentrification pressure indicators for communities with fishing ports have been added to Table 3.12-1 in Section 3.12.
BOEM-2022-0045-0100	47	Please verify whether statistical area 612 or 613 is included in the evaluation of the Regional Fisheries Area and associated analysis. This text suggests 612 is included, but not 613, while Figure 3.9-2 suggests that statistical area 613 is included, but not 612. Please correct figures, descriptions, and associated analysis to ensure the right data are used to describe fishery operations within the Regional Fisheries Area. This was raised during our cooperating agency comments in May.	Text has been corrected.
BOEM-2022-0045-0100	48	Please consider using a broader range of historical data to reflect interannual variation in fishing operations and resource availability. The analysis uses the fishing footprints for 3 years only (2016-2018) as shown in Figures G-1 through G-13 in Appendix G. Additional data available on the Northeast Ocean Data Portal (www.northeastoceandata.org) show similar patterns in more historic data, indicating some fisheries experienced the highest concentrations of fishing effort within the proposed project area and lower fishing effort concentrations outside of the area. Using a shorter timer series is not consistent with BOEM's compensation guidance which is based on our socioeconomic impact guidance highlighted in a previous comment that recommends at least 10 years of data should be used in analyses to avoid under representing fishing in the area and accounting for interannual variability in fishery operations.	Thank you for the comment. The revenue intensity figures for commercial fisheries in Appendix G of the DEIS were based on the data available at the time the DEIS was prepared. As discussed in the DEIS, the data were generally limited to the years 2016 through 2018.
BOEM-2022-0045-0100	49	Please identify how ports were determined to have commercial fishing activity or not in Figure 3.9-1. Are these ports that have landings from within the lease area? The RFA? Greater Atlantic Region? Note that port dependence is not only from landings but fishing businesses and infrastructure- some vessels may land in one or multiple ports, but depend on businesses and infrastructure in others. A more thorough analysis of port usage that includes both commercial, recreational fishing, and wind ports should be conducted separately and included in the EIS as commented on previous projects.	Thank you for the comment. As described in the DEIS, the data presented in Section 3.9 of the DEIS focus on those FMP fisheries, species, gear types, and ports that are relevant to commercial fishing activity in the Lease Area and along the RWEC.
BOEM-2022-0045-0100	50	Please note that project-specific standardized reports available on our website only include 2019 data, but more recent data through 2020 are available upon request. More updated data through 2020 should be utilized in the FEIS per our socioeconomic impact recommendations found at: https://media.fisheries.noaa.gov/2022-02/Socioeconomic-InfoNeeds-OSW-GARFO.pdf	Thank you for the comment. The data in the regional tables in the Affected Environment (Tables 3.9-1 through 3.9-8) have not been updated because these data are used to make regional comparisons in the revenue-at-risk estimates presented in the impact analysis for the action alternatives. For the Lease Area tables in the Affected Environment (Tables 3.9-9 through 3.9-12) the Final EIS includes the 2008-2019 data, but the data for these tables for 2020-2021 was downloaded from the NMFS GARFO website and included in Appendix G for reference. For the for-hire recreational fishing tables in the Affected Environment, the data was updated to 2008-2019 in the Final EIS for consistency with the commercial fisheries tables.
BOEM-2022-0045-0100	51	In Table 3.9-1, clarify whether Surfclam, Ocean Quahog data is included separately or under the "Other FMPs" row, as indicated by the asterisk footnote and in the text above. This contradictory messaging should be rectified.	Text has been corrected in all appropriate tables.
BOEM-2022-0045-0100	52	In Table 3.9-2, ensure the table reflects the order from high to low of pounds landed per the notes below the table. The current table is not organized in this way. It is unclear why some tables are ordered in this way, while others are ordered alphabetically. We recommend the FEIS order tabular data consistently by value or alphabetically to minimize confusion.	Data in tables have been reorganized alphabetically in the Final EIS.

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BOEM-2022-0045-0100	53	In Table 3.8-4, please use the Engagement and Reliance scores for "Point Pleasant Beach, NJ" not "Point Pleasant, NJ" Point Pleasant beach is the geographic location where catch is landed and therefore the scores are reported here on the Social Indicators data tool. Commercial Fishing Engagement= high; Commercial Fishing Reliance= Medium	Engagement and Reliance scores for Point Pleasant Beach have replaced those for Point Pleasant.
BOEM-2022-0045-0100	54	Please delete the text regarding reductions from the call areas or move it to a background discussion in Section 1 instead. As we noted previously, it suggests such reductions were part of the proposed action and increases confusion relative to the evaluation of no action impacts. Additionally, citing Smythe et al. 2016 here is misleading as this report was on the RI Ocean SAMP state process, which did not evaluate the MA/RI WEAs.	Thank you for the comment. This discussion is located in the Description of the Affected Environment (Section 3.9.1) for commercial fisheries and not under the description of the Proposed Action.
BOEM-2022-0045-0100	55	Please provide the total number of vessels that use the lease area (e.g., transit). The VMS analysis currently discusses fishing vessels under 5 knots who are presumed to be actively fishing. In order to better characterize use within the lease area and impacts, all uses should be characterized for mitigation purposes (e.g., changes in transit and fuel costs). Further, the data provided in January 2022 also contains a count of the number of vessels and trips that occurred in each area analyzed for this project, including areas listed in each alternative.	Thank you for the comment. Figure 3.9-6 showing VMS bearings for all vessels (transiting and fishing combined) in the Lease Area has been added.
BOEM-2022-0045-0100	56	Revise the text above Table 3.9-14 to reference landings instead of revenue.	Text has been corrected.
BOEM-2022-0045-0100	57	Please insert a discussion and analysis of state permitted fishery landings and revenue data along the export cable corridor and the lease area, as appropriate, given the admission federal VTR data presented previously in this section does not include such data. The same applies for highly migratory species, as landings/revenues for these species are recorded in vessel logbooks issued by the Southeast Regional Office and Science Center, separate from those referenced in this section issued by the Greater Atlantic Regional Fisheries Office. These data are necessary to fully describe the potential impacts of this project relative to the no action alternative. Otherwise, insert a justification why such data are not included in the DEIS and note in the text that such data underestimate landings and revenue.	Text and tables summarizing landings and revenues relevant to the Revolution Wind Project from vessels that do not hold federal fishing permits have been added to Section 3.9 and Appendix G. A note describing the limitations of the VTR data has been added to the text and tables and where applicable.
BOEM-2022-0045-0100	58	Please correct footnote 19 to indicate that all federally permitted party/charter vessels must submit a VTR for every fishing trip. The regulatory reference is correct, but the application is incorrect. Groundfish vessels, for example, must submit VTRs.	Footnote text has been revised.
BOEM-2022-0045-0100	59	Under Light, revise the impact conclusions to long-term to be consistent with impact definitions in Table 3.3-4. Lighting for construction and operations/maintenance activities could continue for several years as other projects are built and become operational. This is beyond the "several months" listed for short-term impacts in Table 3.3-4.	Text has been revised.
BOEM-2022-0045-0100	61	Under Presence of Structures, please note that predator-prey relations may be impacted, which could benefit some species (black sea bass, striped bass), but harm others (lobster, cod juveniles).	These effects are described in EIS Section 3.13 Finfish and EFH.
BOEM-2022-0045-0100	62	Please identify the FMP or species-specific cumulative revenue impacts from all wind projects combined. This would provide a sense of which fisheries would be more impacted than others. Presenting only total revenue impacts from all FMPs combined does not provide fishery-based impacts, which could have different implications on domestic and international markets and particular communities if particular fisheries are important to specific communities (i.e., the squid fishery and Rhode Island vessels).	Thank you for the comment. Please refer to Table 3.9-26 in the FEIS, which shows annual commercial fishing revenue exposed to offshore wind energy development by Fishery Management Plan under the No Action Alternative. While this data does not include Revolution Wind it does include all other current, ongoing, and future offshore wind projects, including projects in the New York Bight.
BOEM-2022-0045-0100	63	Please describe the methodology used to generate Table 3.9-22. There is insufficient description to replicate this table to assess the accuracy of the data presented and our efforts to replicate methods were unsuccessful. For example, how was revenue exposure extrapolated across projects outlined in Appendix E? Was the average annual revenue exposure for each FMP from each project summed based on when each project was expected to be constructed using project-specific or lease area data from NMFS 2021b? If not, please describe how revenue exposure was calculated. Also, please clarify whether non-federally managed species revenue is included in this table, as the footnote denoted with an asterisk (*) does not clearly describe applicable species (e.g., is Atlantic menhaden from state-permitted vessels included instead of relying only on bycatch of Atlantic menhaden by federal vessels described in federal VTRs). Further, was there any consideration for future species status, as discussed during BOEM's fishery compensation technical working group? Because this table is used as a proxy for cumulative impacts for wind projects other than the proposed action, it is important that this table accurately depicts the potential impacts.	The description of the methodology has been enhanced within Section 3.9.2 and a more detailed description of the methodology is provided in the Commercial Fisheries and For-Hire Recreational Fisheries section of Appendix G.
BOEM-2022-0045-0100	64	Under Regulated Fishing Effort, please note that while the survey mitigation strategy could potentially reduce impacts to NMFS survey efforts over the long term and the indirect impacts of increased uncertainty on management and fishing	Thank you for the comment. The description of the impacts of the survey mitigation strategy has been moved to Section 3.9.2.6. In addition, please note that the description of

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		communities, it would not affect the overall impact categorization for NMFS surveys. Further, there are no dedicated resources in place nor implementation plans yet developed for any potential survey mitigation measures. Therefore, it is speculative to suggest that such efforts would also reduce effects on commercial and for-hire fishing operations at this time. We recommend removing the impact conclusions from this discussion.	potential impacts to commercial and for-hire recreational fisheries resulting from changes to NMFS survey efforts has been moved to the Presence of Structures IPF. The impact of Project construction and O&M on NMFS survey efforts has been changed to major adverse. In turn, these impacts could have a major adverse impact on commercial fisheries and for-hire recreational fishing.
BOEM-2022-0045-0100	65	The DEIS in its current state as well as the mitigation measures, oversimplifies fishing behavior changes and resulting vessel traffic, gear interactions and other space-use conflicts. The DEIS conclusions are based on assumptions that fisheries will be able to quickly adapt to fishing within a project area or adjust to new fishing grounds. The region has a long history of traditional fishing practices and fishermen of different gear types have established social relationships to avoid space-use conflicts. Research has found a decrease in local knowledge passed down through generations of fishing (Farr et al. 2018) and should be considered when determining the ability to adapt to new uses such as offshore wind development in the region. The quality of knowledge will determine the ability of fishermen to adapt, avoid space-use conflicts and find alternative fishing grounds. See other relevant research: Stoll JS, Fuller E, Crona BI (2017) Uneven adaptive capacity among fishers in a sea of change. PLoS One 12https://doi.org/10.1371/journal.pone.0178266 15 Stoll, Beiti, and Wilson. 2016. How Access to Maine's Fisheries Has Changed over a Quarter Century: The Cumulative Effects of Licensing on Resilience. Global Environmental Change 37:79-91 DOI:10.1016/j.gloenvcha.2016.01.005 16Holland and Sutinen. 2000. Location Choice in New England Trawl Fisheries: Old Habits Die Hard. Land Economics Vol. 76, No. 1 (Feb., 2000), pp. 133-149 https://doi.org/10.2307/3147262. Decisions made at sea have been found to be dependent upon social factors in addition to economics (Kraan et al. 2020), including business structure (family owned vs. corporations). Corporations might have different protocols in operating within wind areas. Research in the Northeast (Murray et al. 2010. Cumulative effects, creeping enclosure, and the marine commons of New Jersey. International Journal of the Commons 4(1) DOI:10.18352/ijc.148) has shown that the cumulative restrictions on space over time on fishermen can cause loss of flexibility, change the employment structure (owner vs. employer) and increase corporatization of the fishery. All of these social factors should be included in the EIS and considered when analyzing the impacts of offshore wind development of the project alternatives.	Thank you for the comment. It is BOEM's position that the impact analysis in the EIS is based on the best available information.
BOEM-2022-0045-0100	66	Under Port Utilization and other relevant IPFs, please note that increased utilization of ports by wind project vessels could also lead to higher costs for support services and other downstream impacts if vessels change ports. For example, O'Farrel et al., 2019 discusses three behavior types that could be affected by disturbances in the system; 1. Fishermen with low mobility and less explorative behavior who are risk averse and carry out short trips; 2. Fishermen with high mobility and more explorative behavior are more risk tolerant and conduct longer trips, and; 3. Fishermen have explorative and risk tolerant behavior but also have higher variability in trip duration and revenue. This could also be applied relevant to port utilization. Papaioannou et al. 2021 note that vessel shifts to different ports could result in economic loss to ports and communities, especially small ports, due to changes in fishery landings. As found in the literature, established fishing communities are forced to adapt to new social, economic, and environmental conditions and as a result many fishing communities in the Northeast have been supplemented with technology-based industries and tourism, and are heavily impacted by coastal development, gentrification and the emergence of retirement communities (Claesson, Robertson and Hall-Arber, 2006). Increased tourism and recreational boating & fishing infrastructure as a result of gentrification has also resulted in space use conflicts both onshore and offshore between commercial and recreational fishing (Jepson and Colburn 2013, Thompson 2012, Hall Arber et al. 2001) that could be exacerbated by the proposed action and other projects. Offshore wind development can be another industry providing pressure to these communities, so recognizing those communities that are vulnerable is important. See NMFS Gentrification summaries: https://storymaps.arcgis.com/stories/56781eb366f1485e8ffd7c96b16f133f. Without modelling the human components of socio-ecological systems, impacts will not be effectively recognized and mitigated.	Text has been added.
BOEM-2022-0045-0100	68	Please revise the impact conclusions to reflect a range of impacts (i.e., minor to major) consistent with the previous discussions. Further, references to additional information later in this section that would support this conclusion should be included, or this discussion should be removed from this part of the section. The text immediately below Table 3.9-23 seems sufficient to discuss the general influence of potential mitigation measures in this introductory section. The introduction does not include sufficient supporting information to justify conclusions, rather such information is contained later in the document. Therefore, we recommend that the document reserve conclusions regarding impact levels until later in the document when supporting information is presented in greater detail.	Thank you for the comment. The structure of this chapter follows BOEM guidance for NEPA EIS documents.

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BOEM-2022-0045-0100	69	In Table 3.9-24, acknowledge that impacts to commercial and for-hire fishing activities will be higher or lower for each impact-producing factor even if it would not change the ultimate impact category. For example, the discussion of accidental releases indicates impacts under Alternatives C-F would be lower than that of the proposed action due to fewer turbines built under these alternatives even though the impact conclusions would remain the same as the proposed action. That should be repeated for each impact-producing factor such as light and anchoring.	For most impact-producing factors (IPFs), Table 3.9-24 in the DEIS acknowledges that impacts to commercial and for-hire recreational fishing would be lower under Alternatives C-F. The exception is anchoring. As noted in the DEIS the anchoring impact on navigation and vessel traffic under Alternatives C-F would be similar to the Proposed Action. Therefore, the impact of anchoring to commercial fisheries and for-hire recreational fishing in the GAA would be similar to that of the Proposed Action.
BOEM-2022-0045-0100	70	In Table 3.9-24 under Climate Change, please copy the Alternative A text indicating minor to major beneficial impacts to fishery operations for those targeting species beneficially impacted by climate change to the discussion of Alternatives B-F. This more accurately reflects a range of both beneficial and adverse impacts from climate change to different species and fisheries. The table's impact conclusions are not substantiated by any real discussion in the following section and should be further supported.	Text has been added.
BOEM-2022-0045-0100	71	In Table 3.9-24, under Light, please note that light effects are long-term during operations and maintenance given that such effects would last for years through decommissioning.	Text has been revised.
BOEM-2022-0045-0100	73	In Table 3.9-24, under Port Utilization, please revise impacts to long term, including for construction, to be consistent with Table 3.3-4 given that port activities associated with wind development projects will occur over decades.	Construction impacts from the Project that do not extend beyond the construction period are considered short term.
BOEM-2022-0045-0100	74	In Table 3.9-24, under Presence of Structures, please revise impact conclusions under Alternative B from "temporary minor" to "long-term moderate" at the end of the third and seventh paragraphs to be consistent with impact definitions in Table 3.3-2. If mitigation in the form of gear conflict prevention and claim procedure is a remedial or mitigation measure, then impacts cannot be listed as "minor" based on Table 3.3-2, which indicates minor impacts do not need remedial/mitigation measures and would not return affected entities to a condition with no measurable impacts given current policies would not fully cover opportunity costs for lost fishing activities while gear is repaired. Further the presence of structures disrupts the normal and routine functions of the fishing industry even with mitigation measures, which is inconsistent with "minor" impacts in Table 3.3-2.	Thank you for the comment. BOEM disagrees that a remedial or mitigation measure precludes a "minor" impact level. As a clarification of terms, Environmental Protection Measures (EPMs) are identified in the COP and listed in EIS Appendix F, Table F-1, and are a component of the Proposed Action, and shall be implemented by the applicant. Therefore, EPMs are included in the Chapter 3 analysis of direct and indirect impacts and cumulative impacts. Mitigation measures as identified in EIS Appendix F, Table F-2 and Table F-3, are proposed additional measures that may be applied by BOEM as a requirement for COP approval and are not considered components of the Proposed Action. The Mitigation section within each resource area of Chapter 3 addresses the potential reduction of the impact determination after the proposed additional mitigation measures are applied.
BOEM-2022-0045-0100	75	In Table 3.9-24, under Regulated Fishing Effort, please note our earlier comment that the survey mitigation strategy would not affect the overall impact categorization for NMFS surveys given the current lack of dedicated resources and implementation plans, which is not expected to affect impacts to regulated fishing effort for commercial or for-hire fisheries. Also, please revise the conclusions under Alternative B to match those discussed under Alternative A. While this table concludes that ongoing management actions for the lobster and Jonah crab fisheries would result in major adverse impacts, there are no conclusions reached for other fisheries. Therefore, it is inaccurate to conclude that regulated fishing effort for all other fisheries would similarly have a major impact on those fisheries. In fact, prior discussion in Section 3.9.1 suggested that regulated fishing effort would have long-term positive impacts on fisheries by achieving maximum sustainable yield. This should be reflected in this table.	Thank you for the comment. The description of the impacts of the survey mitigation strategy has been moved to Section 3.9.2.6. In addition, please note that the description of potential impacts to commercial and for-hire recreational fisheries resulting from changes to NMFS survey efforts has been moved to the Presence of Structures IPF. The DEIS notes that regulated fishing effort would have a major impact on some fisheries; it does not state that all fisheries would be affected at that level.
BOEM-2022-0045-0100	77	In Table 3.9-24, under Vessel Traffic, please revise impact conclusions from "short term minor" to "long-term moderate" throughout to be consistent with impact definitions in Tables 3.3-2 and 3.3-4. Construction activities will occur for at least a year for the proposed project and likely all other projects. This suggests impacts from construction will be long-term per Table 3.3-4 as it will exceed several months. Further, because vessel traffic from the proposed and other wind projects will disrupt normal fishing operations, this should be characterized as "moderate" impacts per the definitions in Table 3.3-2. There is no information to support that a communications plan alone would mitigate impacts from vessel traffic within or outside of ports given the lack of detail provided on the number of vessel trips that may be required or from which ports they would be entering/exiting for the proposed action or other projects. It is not sufficient to just state that it is expected that impacts would be low; such claims should be supported by information justifying that conclusion. Finally, it is inaccurate to conclude that vessel traffic impacts for at least Alternative D would be the same as the proposed action. Alternative D was specifically intended to facilitate transit in various directions. Therefore, at least Alternative D would result in lower vessel traffic impacts than the proposed action. This should be noted in this discussion.	Construction impacts from the Project that do not extend beyond the construction period are considered short term. Impact rating changed from minor to moderate. Text regarding Alternative D has been added.

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BOEM-2022-0045-0100	78	Please integrate the above comments on Table 3.9-24 for each impact-producing factor. For example, under Light, please note that such impacts will be long term given they will persist over the life of the project and under Noise, indicate that some species could die due to noise exposure and that noise that disrupts spawning behavior could result in ongoing recruitment impacts for certain fisheries like cod and squid that could, in turn, negatively impact fisheries. In addition, for New Cable Emplacement/Maintenance, please note that surface preparation may relocate boulders and other obstructions that could cause gear damage/loss (e.g., this could go in the discussion on page 3.9-67).	Text has been revised.
BOEM-2022-0045-0100	79	In the discussion of Table 3.9-27, please clarify the methods used to calculate the percentages listed, as it is not clear from the table column headings. Did this calculation take revenue in a particular port from vessels fishing within the lease area or export cable corridor and divide it by the total landings from ME-NC within each port? If so, the calculations appear to correctly reflect the impacts to port. If not, please clarify how the data were analyzed. It would be inaccurate to take port-specific landings from within the lease/export cable corridor and divide by the total landings from ME-NC for all ports.	Text has been revised.
BOEM-2022-0045-0100	80	Please revise impact conclusions in the second to last paragraph to "minor to major adverse" and the "minor" conclusion in the last paragraph to "moderate" to accurately reflect the discussion in this section and impact definitions in Table 3.3-2. It is more accurate to reflect the full range of impacts than to discount the potential major impacts of vessels heavily dependent upon an area for a substantial portion of annual fishing revenue because not many vessels are dependent upon this area (i.e., average impacts). Further, despite the gear conflict claim procedure, the impact conclusion should be "moderate" to be consistent with Table 3.3-2, which indicates moderate impacts would return the affected activity to a condition with no measurable impacts when mitigating action is taken.	Thank you for the comment. BOEM disagrees that a remedial or mitigation measure precludes a "minor" impact level. As a clarification of terms, Environmental Protection Measures (EPMs) are identified in the COP and listed in EIS Appendix F, Table F-1, and are a component of the Proposed Action, and shall be implemented by the applicant. Therefore, EPMs are included in the Chapter 3 analysis of direct and indirect impacts and cumulative impacts. Mitigation measures as identified in EIS Appendix F, Table F-2 and Table F-3, are proposed additional measures that may be applied by BOEM as a requirement for COP approval and are not considered components of the Proposed Action. The Mitigation section within each resource area of Chapter 3 addresses the potential reduction of the impact determination after the proposed additional mitigation measures are applied.
BOEM-2022-0045-0100	81	Under Regulated fishing effort, please revise the impact conclusions to NMFS ongoing scientific research to "major" consistent with previous NMFS comments, including those mentioned above.	Thank you for the comment. The description of the impacts of the survey mitigation strategy has been moved to Section 3.9.2.6. In addition, please note that the description of potential impacts to commercial and for-hire recreational fisheries resulting from changes to NMFS survey efforts has been moved to the Presence of Structures IPF. The impact of Project construction and O&M on NMFS survey efforts has been changed to major adverse. In turn, these impacts could have a major adverse impact on commercial fisheries and for-hire recreational fishing.
BOEM-2022-0045-0100	82	Under Vessel Traffic, please revise impact conclusions to "moderate" consistent with the impact definitions in Table 3.3-2, as noted above. Vessels will have to adjust somewhat to increased vessel traffic. Further, because a communication plan is necessary and that is listed as a mitigation measure, impacts should be classified as "moderate." This is consistent with conclusions on page 3.9-68.	Thank you for the comment. Impact rating changed from minor to moderate. BOEM disagrees that a remedial or mitigation measure precludes a "minor" impact level. As a clarification of terms, Environmental Protection Measures (EPMs) are identified in the COP and listed in EIS Appendix F, Table F-1, and are a component of the Proposed Action, and shall be implemented by the applicant. Therefore, EPMs are included in the Chapter 3 analysis of direct and indirect impacts and cumulative impacts. Mitigation measures as identified in EIS Appendix F, Table F-2 and Table F-3, are proposed additional measures that may be applied by BOEM as a requirement for COP approval and are not considered components of the Proposed Action. The Mitigation section within each resource area of Chapter 3 addresses the potential reduction of the impact determination after the proposed additional mitigation measures are applied.
BOEM-2022-0045-0100	83	In addition to port revenue exposure as a percentage of total fishing revenue from the Regional Fishing Area, please include an estimate of the shoreside support service impacts that may result due to vessel revenue exposure. This will help estimate impacts if vessels are no longer able to fish within the project area or move to a different port.	The EIS assesses potential impacts to shoreside support services, but a quantitative estimate of these impacts is not possible with the data available. A quantitative analysis of portside support services and community dependence is beyond the scope of an EIS for an individual offshore wind project. BOEM may consider conducting a cumulative analysis for all of the offshore wind projects as part of a separate effort.
BOEM-2022-0045-0100	84	Under Port Utilization, please revise impact conclusion to "moderate" to be consistent with Table 3.3-2 given that ongoing port activities in affected fishing ports would require vessels to adapt their behavior and reduce access to port services. This is more consistent with the "moderate" impact definition than "minor."	Text has been revised to further clarify impacts to commercial fishing and for-hire recreational fishing as a result of changes in port utilization.

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BOEM-2022-0045-0100	85	Ensure that this section accurately reflects the scope of regional impacts to fishery operations, noting that cumulative impacts will be higher than those of the proposed action even if the impact definitions will remain the same in some limited circumstances. Existing leases cover 2.5 million acres from Maine to North Carolina and fishery operations occur in all lease areas and vessels operate out of ports that will also support wind projects. Thus, there are measurable impacts from many of the impact producing factors that are over and above those of the proposed action, and most impacts should be listed as "moderate" to be consistent with impact definitions in Table 3.3-2. For example, while anchoring may be localized and temporary, vessels from multiple areas will have to adapt to such anchoring, which is consistent with at least "moderate" impacts per Table. 3.3-2. Similarly, the need for cable armoring and associated mitigation measures for gear damage/loss would result in "moderate" impacts.	Impact rating for the Anchoring IPF has been changed from negligible-to-minor to negligible-to-moderate for the No Action Alternative. BOEM disagrees that a remedial or mitigation measure precludes a "minor" impact level. As a clarification of terms, Environmental Protection Measures (EPMs) are identified in the COP and listed in EIS Appendix F, Table F-1, and are a component of the Proposed Action, and shall be implemented by the applicant. Therefore, EPMs are included in the Chapter 3 analysis of direct and indirect impacts and cumulative impacts. Mitigation measures as identified in EIS Appendix F, Table F-2 and Table F-3, are proposed additional measures that may be applied by BOEM as a requirement for COP approval and are not considered components of the Proposed Action. The Mitigation section within each resource area of Chapter 3 addresses the potential reduction of the impact determination after the proposed additional mitigation measures are applied.
BOEM-2022-0045-0100	86	Under Climate Change, please insert text from Table 3.9-27 that some fisheries for species positively affected by climate change (squid) may benefit from climate change; the impacts are not exclusively adverse.	Text has been added.
BOEM-2022-0045-0100	87	Please provide justification to support the conclusions that the long-term major adverse impacts to fishing operations are driven by climate change and regulated fishing effort. As noted before, there are positive fishery impacts due to climate change benefitting some species and that the only fishery which it was noted could experience major impacts from fishery regulations was the lobster/Jonah crab fishery due to North Atlantic right whale restrictions. Because limited detail is available for most of the mitigation measures for non-approved projects, consider revising characterization of mitigation measures to reduce impacts from "would" to "could." This is consistent with text on page 3.9-75.	Text has been revised.
BOEM-2022-0045-0100	88	Please provide a summary of the number of vessels and trips that would be affected under each alternative and evaluate which fisheries would be impacted by the removal of turbines under each alternative. Data on vessels impacted by each alternative were made available as part of the project's data request in January 2022. Such data indicate the number of entities that would be affected by each alternative and the scale of such impacts between alternatives. This is another important metric that could more effectively assess impacts to fishing operations and associated communities than proportion of regional revenues. Comparison with fishing footprint information (as used in figures in Appendix G) can identify where certain fisheries operate relative to the alternative configurations. This will identify which fisheries and communities may be affected most. This is similar to our comment 32 for Section 3.9 during the cooperating agency review.	Vessel trip and vessel number data was added to the impact analysis for each action alternative in the Final EIS to the extent possible.
BOEM-2022-0045-0100	89	Please clarify if these are developer-proposed mitigation measures or those that BOEM may require as part of the approval of the COP. It is unclear if the developer has proposed these and whether/if they will be required by BOEM.	The mitigation measures in Section 3.9.2.6 are not developer-proposed EPMs. Developer-proposed EPMs are included in the analysis. The mitigation measures in Section 3.9.2.6 originate in Appendix F and include measures proposed by BOEM and other cooperating agencies to the Project.
BOEM-2022-0045-0100	90	In Table 3.9-28 under compensation for lost fishing income and the following narrative text, please revise the text suggesting this measure "would" reduce impacts from major to moderate to "could" reduce such impact. There is insufficient information available to support that claim at this time. BOEM's mitigation guidance is not finalized and no details of a proposed mitigation plan are available for this project. Therefore, it is not possible to determine the scale of impact reduction that would be realized from this measure. If compensation does not fully compensate for losses, which is possible under the draft guidance, an affected entity could still have measurable impacts even after partial compensation. If that occurs, impacts would still be classified as "major" under the definitions in Table 3.3-2. Given the uncertainty in final mitigation measures, we recommend retaining the impact range as "negligible to major."	The impact rating has not been changed, but if BOEM receives additional information for a compensatory mitigation plan the rating will be reassessed.

Cultural Resources

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BOEM-2022-0045-0110	9	Successful compliance with Section 106 involves identifying state, tribal, and private interests involved in historic preservation within the development areas. Relevant State or Tribal Historic Preservation officers (SHPO or THPO respectively) must be involved in the 106 process, along with any private preservation groups with appropriate legal or economic interests. BOEM must identify which historic properties are listed, or are eligible for listing, on the National Register of Historic Places that could be affected by the project. BOEM must assess the project's impact on these properties to determine if any adverse effects "diminish the characteristics qualifying a property for inclusion in the national register."38 Collaborative efforts between BOEM, SHPO, THPO, and any private preservation groups can result in agreed upon measures to minimize or mitigate known adverse effects. These collaborations should continue throughout project development in case any unknown cultural or archaeological resources are discovered during development. According to the DEIS, federal recognized tribes in the GAA include: Mashpee Wampanoag Tribe, Shinnecock Indian Nation, Mashantucket Pequot Tribal Nation, Wampanoag Tribe of Gay Head (Aquinnah), Mohegan Tribe of Indians of Connecticut, Narragansett Indian Tribe, Delaware Tribe of Indians, and Delaware Nation, and BOEM has met with these tribes on various issues.39 Additionally, while the NHPA does not require it, consultation with all state recognized tribes who may have resources that could be potentially affected by the Project would help ensure environmental justice goals of the Administration are advanced. Robust consultation with states and tribes under Section 106 is paramount to ensuring the Project appropriately considers impacts on historic state and tribal resources.	Thank you for the comment. BOEM has engaged in, currently engages in, and will continue to engage in consultation with federally recognized Tribal Nations, including THPOs, SHPOs, and private interests involved in historic preservation within the development areas.
BOEM-2022-0045-0064	1	The following comments are directed to Appendix J in the DEIS - Finding of Adverse Effect for Historic Properties and Draft Memorandum of Agreement. In summary, Appendix J severely minimizes the adverse effect of the Project on Norman Bird Sanctuary and, as a result, proposes disproportionate mitigation measures to offset these adverse impacts. While Norman Bird Sanctuary fully supports the need to advance clean power to address climate change, we equally support mitigation to offset adverse impacts caused by clean power projects. For the reasons that follow, we respectfully request that the findings in Appendix J be modified and that the proposed mitigation measures identified by Norman Bird Sanctuary be included. As described more fully below, this Project would have cumulative adverse impacts to Norman Bird Sanctuary with respect to: 1) the visual impact of the Project's turbines and the resulting diminishment of the integrity of our significant historic features and contributing features, and 2) the turbine's impact to avian and other migratory species that may impact the character of the setting as a bird sanctuary and an historic farm that supports avian species. To begin, we strongly agree with BOEM's overriding conclusion that the Project will adversely affect Norman Bird Sanctuary and other historic properties under the protections of Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and the associated regulations at 36 CFR Part 800. The Project will have an adverse effect on numerous historic properties as it will alter the characteristics of historic properties "in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." 36 CFR 800.5(a)(1). The regulations at 36 CFR 800.5(a)(2) include numerous examples of potential adverse effects on historic properties including: 1) the introduction of visual elements that diminish the integrity of the property, and 2) changes of the character of the historic property. As described more fully below, this Project would have cumulative adverse impacts to Norman Bird Sanctuary with respect to: 1) the visual impact of the Project's turbines and the resulting diminishment of the integrity of our significant historic features and contributing features, and 2) the turbine's impact to avian and other migratory species that may impact the character of the setting as a bird sanctuary and an historic farm that supports avian species. 1. Adverse Visual Impacts As specified in Appendix J, the following approach was used in analyzing the visual impact of the Project: As the HRVEA notes, the primary 'potential effect resulting from the introduction of wind turbines into the visual setting for any historic or architecturally significant property is dependent on a number of factors, including distance, visual dominance, orientation of views, viewer context and activity, and the types and density of modern features in the existing view (such as buildings/residences, overhead electrical transmission lines, cellular towers, billboards, highways, and silos)' (EDR 2022a:102). Potential visual effects were assessed by considering a number of factors for each above-ground historic property, including: • Maritime setting	Impacts associated with visual resources and visual values related to users and uses (e.g., for recreation) of this area (KOPs AI05, AI06, and AI07) can be found in Appendix G Tables G-40 through G-48).

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		• Contribution of views of the sea to the above-ground historic property's significance • The location and orientation of the above-ground historic property relative to the shoreline/sea. With respect to determining whether a property had a significant maritime setting and the relationship of the view of the sea to the historic property, the factors used for this Project included the views of marine waters, the unobstructed views of the sea, whether the view contributes to the historic significance of a the property, the distance and direction of view related to the intended historic purpose, the total acreage of the historic property, the total acreage of visibility within the property, and the portion of the above-ground historic property (percent of acreage) from which the Project would be potentially visible. Appendix J includes "Draft Historic Property Treatment Plan for the Revolution Wind Farm - Nine Historic Properties - Town of Middletown, Newport County, Rhode Island". This draft Historic Property Treatment Plan (HPTP) includes the following discussion relating to Norman Bird Sanctuary's maritime visual setting: 3.5.3 NRHP Criteria and the Maritime Visual Setting The Paradise Rocks Historic District is an NRHP-eligible resource, possibly under Criterion A and C. The district contains a typical landscape within coastal New England and Middletown that was utilized for agriculture by Europeans for over 200 years. In addition, the few houses within the district are typical examples of nineteenth century residences within Middletown, Rhode Island, embodying the distinctive characteristics of the type, period, or methods of construction. The homes are also in keeping with the vernacular building tradition of coastal New England. One of the resources within the District, the Smith-Gardiner-Norman Farm (also known as Paradise Farm), was listed in the NRHP under Criterion A and C for its significance in the history of Middletown's settlement and agriculture. According to the NRHP Inventory Nomination Form (Connors, 2007), the Paradise Farm is "a well-preserved example of Rhode Island's eighteenth and nineteenth century island farms, typical of its region in its form and in its history of use and ownership until the early twentieth century." Contributing structures included a farmhouse, a two-car garage, carriage shed, barn, stone walls, agricultural fields, orchard, family garden, sheep pen, Gardiner Family Burial Plot (1786-1872), gravesite (date unknown), Hanging Rock, and quarry. The period of significance for the Farm spans from 1750 to 1949. While the early period's significance included the history surrounding the historic farmstead, the later period's significance included the pattern of development in the history of the island towns and the use of agricultural areas in island towns as country retreats for wealthy families. The Smith-Gardiner-Norman Farm may also be NRHP eligible under Criterion D, as it may yield evidence about the lifeways of coastal Native Americans as well as successive owners, tenants, and slaves (Connors, 2007). While this analysis includes a proper attribution of the NRHP listing of Smith-Gardiner-Norman Farm (hereinafter Norman Bird Sanctuary or Paradise Farm), it is entirely devoid of any discussion of the maritime setting, the extensive views of ocean from numerous areas within the property, the significant acreage of the site, or the historical significance of the relationship between the historic resources and the views of the ocean. In contrast, other districts and properties in Appendix J describes: "extensive and magnificent ocean views contribute to the integrity of setting, feeling, and association" and the "district as a whole derives historic significance from its seaside location and maritime visual setting, as the location specifically relied on its coastal setting and maritime view in order to attract homeowners." Moreover, it is unclear why Norman Bird Sanctuary as a listed NRHP property is not treated separately rather than being part of the unlisted Paradise Rocks Historic District. From our review of Appendix J, the net result was a lack of analysis of the maritime setting of Norman Bird Sanctuary and the extensive acreage and percent of the property that will be affected by the Project. Norman Bird Sanctuary was listed as part of the Paradise Rocks District in Table 3 Above Ground Historic Properties Adversely Affected by the Project, in Order of Nearest Distance to Project WTGs. While it was listed as historic under 4.1.3.2 Historic Buildings and Structures, it is unclear why Norman Bird Sanctuary was not listed in 4.1.3.6 as part of the Agricultural Properties. Of these agricultural properties, four properties in Rhode Island were determined to "possess important settings and critical views of the Project (see EDR 2022a: Attachment A) and have been determined by BOEM to be subject to adverse effects from the offshore elements of the Project." Norman Bird Sanctuary clearly meet the common attributes of this historic property type – they are described "in the HRVEA (EDR 2022a:50) as follows: • Farmhouses; • Barns and associated ancillary buildings; • Large, open fields; • Fieldstone walls dividing property or grazing space; and • Locally sourced building materials." Lastly, Norman Bird Sanctuary should have been included in 4.1.3.7 as part of the recreational properties listed in the visual APE (Appendix B) as Hanging Rock as a tourist destination meets the standard of the "role these properties served in their original functions as places for the resort tourism economy of the late-nineteenth century to flourish" (EDR 2022a:50)."	

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		This lack of analysis is critical in that it minimizes the adverse impact of the Project with respect to the visual implications to Norman Bird Sanctuary. This failure to properly assess the adverse visual impact is important to the credibility of the findings of Appendix J and is directly related to the adequacy of the mitigation proposed by Revolution Wind. Norman Bird Sanctuary understands that Revolution Wind has provided this draft HPTP with proposed mitigation to BOEM for inclusion in the DEIS so that parties may provide meaningful input on the resolution of adverse effects and help the development of implementing mitigation at the historic properties. For these reasons, Norman Bird Sanctuary is providing BOAM and Revolution Wind with the following information to better describe the adverse effects as well as mitigation proposals that adequately address these adverse effects. Norman Bird Sanctuary's listing as a historic property includes thirteen (13) contributing resources and these resources "include those related to Smith-Gardiner-Norman Farm from the construction of the farmhouse ca 1750 to the death of owner Mabel Norman Cerio in 1949." These thirteen resources are listed in order of distance from the Project's turbines and have views of the ocean unless noted (not visible – NV or limited visibility - LV) as follows: 1) Hanging Rock, 2) Agricultural fields (40 acres), 3) Stone walls, 4) Sheep Pen, 5) Quarry-LV 6) Gravesite–NV, 7) Farmhouse, 8) Two car garage-LV, 9) Carriage Shed-LV, 10) Family Garden, 11) Orchard, 12) Barn-LV, 13) Gardiner Family Burial Plot- NV. Approximately 17,000 visitors come to visit Norman Bird Sanctuary each year to see our historic buildings, walk our historic agricultural fields edged by colonial stone walls, hike our seven miles of trails, and enjoy the scenic viewshed of the surrounding coastline. The viewshed from Paradise Farm and our ridge trails is well documented in the Norman Bird Sanctuary Cultural Landscape Report (see NBS website and comment photos and videos). The viewshed from the culturally significant overlook from Hanging Rock is described as follows in this report: Hanging Rock (NRHP- 19th century, contributing) Hanging Rock or "Berkeley's Seat", sits approximately 10' above sea level, and is composed of Coal-Age conglomerate and sandstone. It is noted for its iconic south facing profile jutting out over Paradise Valley with a view to second beach and the Atlantic Ocean. Hanging Rock's iconic image has been captured by many known and unknown artists through the ages but its heyday was in the late 1800's when "luminist" artists such as John LaFarge, John F. Kensett, James A. Suydam, Thomas Worthington Whittredge painted extensively in Paradise Valley. While Appendix J's description of the view of the maritime setting does not include a description of the view from Hanging Rock, Revolution Wind Farm's "Visual Impact Assessment" does include two pictures taken from Hanging Rock. In section 3.2.2.5 AI07: Hanging Rock, the existing view from Hanging Rock is described as follows: "The overlook represents a singular available elevated location along this part of Aquidneck Island" and "Rating panel members indicated that the scene is dominated by the man-made pond dike and platform in the foreground, as along with the parking area and adjacent dunes. As noted by one panel member, these elements in the foreground tend to draw attention away from the open view of the water." It is difficult to understand how the rating panel reviewers of the existing view from Hanging Rock could conclude that the view is dominated by man-made objects unless they were simply shown the two existing condition pictures. Visitors to Norman Bird Sanctuary specifically come hike our trails to witness the spectacular views from Hanging Rock. Visitors similarly come to hike Red Fox Trail (on the south-western corner of the historic 130 acres) for the spectacular views of the ocean, Paradise Valley, and Hanging Rock as a geological landmark (see comment photos and videos). The language of the DEIS includes the following language: "views toward the Project from inland locations were generally blocked by buildings/structures and vegetation. Exceptions occur at topographic highpoints, such as Hanging Rock at Norman Bird Sanctuary and the inland portions of Brenton Point State Park." While this language recognizes the unobstructed views from Hanging Rock, the review panel members appear to minimize the existing views and the impact of the Project. In section 3.2.2.5, the visual impact assessment includes the following findings of the Project: Proposed Project Regional visibility of the RWF in this area is largely restricted to the shoreline along Second Beach, and unobstructed views across the open water of Nelson and Gardiner Ponds along the southeastern shore of Aquidneck Island (two additional KOPs are located nearby including Second Beach and Sachuest Point which provide additional information on regional visibility). Additional areas of potential Project visibility are present northeast of Gardiner Pond along Hanging Rock Road, as well as east of the pond along Third Beach Road, where views would be available across low-lying coastal wetland areas.	

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		With the proposed RWF in place, from this KOP the nacelles and rotors of numerous WTGs will be visible in the background along the horizon. The nearest WTG would be 16.3 miles (26.2 km) south-southeast of this KOP. Rating panel members noted that the density of the RWF turbines across the horizon become a dominant focal point of the view. One reviewer indicated that the turbines were particularly noticeable under the backlit lighting conditions illustrated in this view. Rating panel members had varying reactions to the RWF's impact, with VIA scores ranging from 9.3 to 12.7 (average score = 10.9). These scores indicate an average reduction of 1.4 points in comparison to the existing view, with individual rating panel members indicating reductions that ranged from 0.6 to 2.4. With the RWF in place, the KOP score remains within the Partial Retention class (see Table 3.2-12). Considering the compatibility, scale contrast, and spatial dominance factors that influenced the visual impact rating at this KOP, panel member ratings demonstrated that the WTGs were generally compatible with, landform, and vegetation, and somewhat compatible with water resources, land use, and user activity (see Table 3.2-13). Scale contrast was rated as minimal for vegetation and land use, but moderate for water resources, landform, and user activity. Considering spatial dominance, panel ratings suggest that the WTGs are subordinate to vegetation and land use, and co-dominant to water resources, landform, and user activity. Based on the compatibility, scale contrast, and spatial dominance impacts of the RWF it is anticipated that Project visibility from this KOP will be consistent with VTL 5 because it "is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements." (Sullivan et al., 2013). The overlooks from Hanging Rock Trail and Red Fox Trail are primary destinations for the thousands of Norman Bird Sanctuary members and visitors that hike our seven miles of trails. While pictures from these overlooks simply do not do justice to seeing the views in person, we have included pictures and videos from both vantage points as part of our comments on this Project to demonstrate the magnificence of the existing views from both overlooks (see comment photos and videos). Suffice it to say, the rating analysis performed for this Project simply does not reflect the quality of the existing views or the adverse impact caused by the Project. In addition to the views from Hanging Rock Trail and Red Fox Trail, the views from other contributing resources are also especially worthy of note. The views from the agricultural fields and associated stone walls are critical parts of Norman Bird Sanctuary's trail system. This includes the fields adjacent to the Paradise Farmhouse as well as fields that head out toward Hanging Rocks Road as well as fields across Hanging Rocks Road (see comment photos and videos). Of the 130 acres of the historic listing, 40 acres are agricultural fields. These fields are kept as grasslands for birds and provide sweeping views of the ocean. These views are enjoyed by members and visitors who walk the trails, view wildlife, and birdwatch as well as by people who rent Paradise Farmhouse or associated buildings for overnight stays, weddings, artist and corporate retreats, and various meetings. These views from the open fields are critical reasons that people come visit or rent our buildings. In addition to the fields and stone walls, the Farmhouse, the family garden and the orchard are also listed as contributing resources. Similar to the fields and stone walls, these three contributing features also afford excellent views of the ocean. Weddings with an ocean view are performed in Mabel's Garden – named after the founder of the Sanctuary. The view from the primary bedroom of the Paradise Farmhouse is surely a major attraction of our rental success (see comment photos and videos including a video of Paradise Farmhouse). As listed above, the remaining contributing resources have no or limited views of the ocean. The failure to properly conduct an analysis in Appendix J of the maritime setting, views to the sea, and orientation of the historic resources on the Norman Bird Sanctuary property must be cured. A thorough analysis of the property and its historic resources must be completed to properly assess the adverse impact of the Project. It is also important to note that Norman Bird Sanctuary has invested substantial funds since it was founded in 1949 to protect the historic property, buildings, contributing resources, as well as the viewshed. While a full accounting is beyond the scope of these comments, the major capital investments include a $2,200,000 renovation of Paradise Farmhouse (https://www.newportri.com/story/news/local/2014/01/17/what-mabel-wouldhave/12747091007/). This investment allows Norman Bird Sanctuary to rent the Farmhouse and allow for the public enjoyment of the historic house as well as the stunning views of the ocean. In addition, a $3,500,000 acquisition and deed restriction added the 23-acre Third Beach property (https://www.environmentcouncilri.org/content/third-beach-land-acquisition-project). This property expanded the Norman Bird Sanctuary to own additional habitat for birds and other species along Third Beach, in dune habitat, in cattail marsh	

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		habitat, and in additional upland habitat. This expansion also allowed for the creation of our Coastal Education Center where students can experience the protection of these habitats and view species such as piping plovers. In addition, the $1,150,000 acquisition of a 14.5-acre parcel and the 34.7-acre deed restriction of the Gray Craig property was completed in partnership with Rhode Island, the Town of Middletown and the City of Newport. This acquisition also added an additional trail with ocean views.	
BOEM-2022-0045-0064	3	3. Proposed Modification to the Draft Historic Property Treatment Plan Appendix J includes a “Draft Historic Property Treatment Plan for the Revolution Wind Farm - Nine Historic Properties - Town of Middletown, Newport County, Rhode Island”. This draft Historic Property Treatment Plan (HPTP) includes the following proposals to address the adverse impacts of the Project: Development of a Coastal/Shoreline Resiliency and Climate Adaptation Plan for Historic Properties 1) Revolution Wind will provide funding to develop a coastal/shoreline resiliency and climate adaptation plan for the eight historic properties identified in Attachment 21 to provide the Town and historic property owners with specific measures that can be taken to protect their historic properties from flooding, coastal erosion, and other climate related threats as described in Attachment 21 . 2) Revolution Wind will develop the project consistent with Town of Middletown Planning Regulations; Current Climate Adaptation, Resiliency, and related guidance; the SOI Standards for Treatment of Historic Properties (36 CFR 68); the SOI Guidance on the Identification of Historic Properties (36 CFR 800.4); and the SOI Professional Qualifications Standards (36 CFR Part 61), as applicable. 3) Revolution Wind will submit an RFP, proposals by qualified consultants in response to the RFP, photographs and documentation of existing conditions, draft updated historic property inventory if required, final updated historic property inventory if required, draft Coastal/Shoreline Resiliency and Climate Adaptation Plan, and final Coastal/Shoreline Resiliency and Climate Adaptation Plan to the interested consulting patties for review. Historic Context for Summer Cottage/Resort Development 1) Revolution Wind will provide funding to develop a regional context/history of the development of summer cottages, colonies, and resorts on the Rhode Island and Massachusetts coastlines in the late-nineteenth and early-twentieth centuries as described in Attachment 21. 2) Revolution Wind will develop the project consistent with the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61), as applicable, RIHPHC guidance, and MHC guidance. 3) Revolution Wind will submit an RFP, proposals by qualified consultants in response to the RFP, preliminary draft report, and final report to the interested consulting parties for review. For the reasons provided in the two sections above, Norman Bird Sanctuary maintains that the adverse impact analysis does not property address the Project’s impact to Norman Bird Sanctuary. Accordingly, the following proposed additions to the draft Historic Property Treatment Plan (HPTP) are recommended to be included: A. Historic, Cultural, and Viewshed Mitigation Paradise Valley Historic Context, Website, Mobile Application, and Interpretive Signage 1) Revolution Wind will provide funding to develop a regional context/history of Paradise Valley to provide details on the historic, artistic, and environmental heritage of Paradise Valley. In addition, this project will include a “Paradise Valley” website, mobile application and related interpretive signage. Paradise Valley National Register of Historic Places Nomination 1) Revolution Wind will provide funding to recognize and document the historic and cultural significance in Middletown by completing NRHP Nomination for the entire Paradise Valley as described in Attachment __. Paradise Valley Pedestrian Safety and Access Plan 1) Revolution Wind will provide funding to complete a study of pedestrian access, safety improvements, and alternative options to improve pedestrian safety and access throughout Paradise Valley. Support On-Going Maintenance and Aesthetic Improvements to the Third Beach Road and Hanging Rocks Road Stone Walls 1) Revolution Wind will provide funding for the implementation of resiliency measures, ongoing maintenance, and/or	The Draft EIS has found adverse effects from visual impacts within the Paradise Rocks Historic District and, in application to that property's mitigation, BOEM will take into consideration your recommendations for mitigation of adverse effects when finalizing the draft MOA and its attached HPTPs (see EIS Appendix J). Please note that Appendix J addresses only impacts to historic properties as defined under NHPA Section 106. Please see EIS Appendix F for environmental protection measures and mitigation and monitoring on other resources, including avian resources.

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		aesthetic improvements to the historic stone walls along Third Beach Road and Hanging Rocks Road stone walls to ensure the long-term preservation of this historic resource as described in Attachment __. B. Mitigation of Property as a Nature Preserve Avian Research Project 1) Revolution Wind will fund the development of multi-year habitat and usage survey of migration flyways for avian, bat, and related wildlife species using an array of sites along the East Coast. This will establish a current day baseline of population numbers and density with which the impact of the period in which initial construction begins through five years of operations. The Norman Bird Sanctuary will serve as one of several study sites along the East Coast at which Revolution Wind will fund banding surveys, GPS tracking, and other population monitoring projects to accurately track the impact of the Project. Development of Interpretive Materials 1) Revolution Wind will fund the development of GIS story maps and comparable demonstrations to interpret the native avian species and migratory patterns to be used as an interpretive exhibit on the Norman Bird Sanctuary property and website Support On-Going Improvements to the Third Beach Coastal Trail 1) Revolution Wind will provide funding for the ongoing improvement to the Norman Bird Sanctuary's Coastal Trail to provide support for bird viewing platforms and other trail improvements to ensure preservation of natural resources as described in Attachment __. For the above reasons, Norman Bird Sanctuary respectfully maintains that proper recognition of the adverse impacts will be included in Appendix J and appropriate mitigation measures are included in draft Historic Property Treatment Plan.	
BOEM-2022-0045-0064	5	B. Mitigation of Property as a Nature Preserve Avian Research Project 1) Revolution Wind will fund the development of multi-year habitat and usage survey of migration flyways for avian, bat, and related wildlife species using an array of sites along the East Coast. This will establish a current day baseline of population numbers and density with which the impact of the period in which initial construction begins through five years of operations. The Norman Bird Sanctuary will serve as one of several study sites along the East Coast at which Revolution Wind will fund banding surveys, GPS tracking, and other population monitoring projects to accurately track the impact of the Project. Development of Interpretive Materials 1) Revolution Wind will fund the development of GIS story maps and comparable demonstrations to interpret the native avian species and migratory patterns to be used as an interpretive exhibit on the Norman Bird Sanctuary property and website Support On-Going Improvements to the Third Beach Coastal Trail 1) Revolution Wind will provide funding for the ongoing improvement to the Norman Bird Sanctuary's Coastal Trail to provide support for bird viewing platforms and other trail improvements to ensure preservation of natural resources as described in Attachment __. For the above reasons, Norman Bird Sanctuary respectfully maintains that proper recognition of the adverse impacts will be included in Appendix J and appropriate mitigation measures are included in draft Historic Property Treatment Plan.	The proposed Project's impacts to birds are analyzed in Section 3.7 of the EIS. BOEM, USFWS, and the applicant are developing the required bird and bat monitoring plan (elements included as mitigation measures in EIS Appendix F, Table F-2 and Table F-3), which will include many of the elements in the drafted Revolution Wind Avian and Bat Post-Construction Monitoring Framework (see COP Appendix AA).
BOEM-2022-0045-0064	4	See attachment 1 to letter BOEM-2022-0045-0064 which includes text, maps, photos, and video links for Norman Bird Sanctuary.	Thank you for the added information accompanying your comment.
BOEM-2022-0045-0080	1	Because BOEM bifurcated the deadline for submitting comments on the National Historic Preservation Act (NHPA) process—including the Section 106 Finding of Affect, Draft Memorandum of Agreement, Area of Potential Effects Delineation Memorandum, CHRVEA, HRVEA offshore, HRVEA onshore, MARA, TARA, and NHL Supplementation—the Block Island Parties and Newport Parties reserve the right to supplement their comments on the DEIS with comments submitted on all NHPA issues. For purposes of these comments, our review of the NHPA documents shows that the DEIS, which relies on them, is seriously flawed, and that Revolution Wind's mitigation proposals for resolving adverse effects to our clients' historic properties are absurd. As a threshold matter, BOEM undermines consultation and the legitimacy of its environmental permitting responsibilities by refusing to respond to our simple question: Why did BOEM classify reports associated with the preparation of the DEIS and relevant documents incorporated by reference relative to the NHPA, other than to state that BOEM will respond later in writing? Unfortunately, BOEM's refusal to respond demonstrates a pattern and practice of failing to comply with federal historic preservation laws across its portfolio of offshore wind energy developments. BOEM's failure to address our comments, questions, and concerns—other than "We'll get back to you"—makes it difficult for	With respect to the timing of the Draft EIS public comment period and the differing dates for technical document review by consulting parties under NHPA Section 106, BOEM believes that it was appropriate to give the consulting parties additional time to review the documents that it distributed on August 1, 2022, because supplemental information on NHLs was provided during the review period for the Section 106–related documents and reports. This extended review period allowed the consulting parties at least 30 calendar days to review the supplemental information, which was shared with consulting parties on October 1, 2022. With this extension, the consulting parties had a 90-calendar-day review period for the Section 106–related documents from August 1 to October 31, 2022. BOEM elected not to extend the 45-day public comment period on the Draft EIS. BOEM is planning to include the final versions of the Finding and MOA, with input from consulting parties, in the Final EIS. Also, to the extent that the consulting parties' comments on any of the Section 106 consultation–related documents warrant changes to the analysis in the

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		consulting parties to comment meaningfully on the DEIS insofar it is unclear what documents they may share with their constituencies to seek their reactions and concerns. See Attachment A.1 In addition, we note BOEM's failure generally to notify historic property owners, other than nongovernmental organizations, about Revolution Wind and the ongoing permitting review, even though they have a demonstrated interest in the Project. Finally, BOEM's so-called "public hearings" for Revolution were organized with inadequate notice or little to no advertising and should have occurred within the Town of New Shoreham and City of Newport, two communities with National Historic Landmarks expected to bear the brunt of Revolution Wind's adverse effects. As oceanfront communities, the Block Island and Newport Parties are at the forefront of climate change response and impacts. They are committed to supporting responsibly permitted renewable energy projects. At the same time, they seek to protect their communities' historic and cultural character, their tourism economies, and their uninterrupted ocean views for generations to come and to ensure offshore wind is developed responsibly and in accordance with the law. The Block Island and Newport Parties should not be forced to bear externalities created by multi-billion dollar corporations—like Ørsted—that stand to make billions of dollars in revenue at a community's expense and without any direct or tangible benefit. Our clients' goal in consultation with BOEM is to ensure that BOEM's permitting process follows the law, and that BOEM selects an alternative that preserves the integrity of the Project's surrounding area to the greatest extent possible, including all ocean-facing historic properties. Our clients insist that BOEM comply with the requirements of the National Environmental Policy Act (NEPA) and Section 106 and 110(f) of the National Historic Preservation Act (NHPA) so that Revolution Wind and nearby windfarms are developed responsibly. Our comments address several deficiencies: (1) the DEIS is inadequate because it fails to take a "hard look" at impacts to historic and cultural resources by undervaluing their significance and downplaying adverse impacts to Block Island and Newport; (2) the DEIS fails to consider adequately the cumulative effects of Revolution Wind, South Fork Wind, Sunrise Wind, and other reasonably foreseeable wind farms; and (3) BOEM has inappropriately classified key technical reports and other documents associated with the environmental review process and therefore is thwarting public understanding of the Project's true impacts. If BOEM or any other cooperating agency, such as the U.S. Army Corps of Engineers, relies on the DEIS in its current form, any decision the agency makes will be arbitrary, capricious, and contrary to law. Footnote 1: Letter from William J. Cook to Sarah Stokely and Scott Phillips dated May 2, 2022 (Comments on Revolution Wind Technical Reports).	main body of the Final EIS or any of the other appendices, BOEM will consider the consulting parties' comments in those contexts. BOEM had also received previous consulting party requests for clarification regarding public availability of documentation provided during this NHPA Section 106 consultation and about BOEM's NHPA Section 304 process for the Project. The following reiterates BOEM's November 3, 2022, responses to the same or similar comments received on the Draft EIS from the same parties. BOEM has consulted with the ACHP and coordinated with the NPS about a plan on how to handle sensitive information potentially subject to Section 304 of the NHPA. BOEM has not yet formally initiated the Section 304 consultation pursuant to 36 CFR 800.11I for the Section 106 consultation on the Project. The NPS has informed us that the Section 304 regulations of the NHPA do not specify when or if an agency is required to initiate consultation with the Secretary of the Interior within the course of an ongoing Section 106 consultation. In addition, the NPS advised BOEM that it is acceptable for a federal agency to wait to disclose project findings to the public until identification of historic properties, including sites of religious and cultural significance to Tribal Nations, and until potential effects to these properties have concluded and consensus evaluations of NRHP eligibility have been completed. From the beginning of the Section 106 consultation for the Project, BOEM has planned to distribute these reports that contain sensitive information to the consulting parties and to post publicly available summaries or redacted versions of Section 106–related documents to BOEM's website. The consulting parties have received all the available information and documentation associated with this Section 106 consultation, including sensitive information that could be subject to Section 304. The basis for making confidential all of the revised technical reports (reports associated with the preparation of the Draft EIS) as opposed to redacting sensitive portions and making the documents public is as follows. The documents could contain sensitive information that could be subject to Section 304 of the NHPA. We have publicly available summaries of the revised technical reports—the MARA, TARA, and offshore HRVEA—posted to BOEM's website for the Project at https//:www.boem.gov/renewable-energy/state-activities/revolution-wind-farm-construction-and-operations-plan). These summaries were posted shortly after the Project's Draft EIS was made publicly available. The CHRVEA is available on BOEM's website for this Project under the visual simulations tab (https//:www.boem.gov/renewable-energy/state-activities/revolution-wind). The Draft EIS contains the Finding and the draft MOA with certain sensitive information redacted. The Finding in the Draft EIS includes information regarding how BOEM has delineated its APE for the Project. All consulting parties received unredacted copies of the MARA, TARA, HRVEA, memorandum on the updated HRVEA (offshore), CHRVEA, and memorandum on BOEM's APE delineation. The basis for making confidential the Finding and draft Memorandum of Agreement and redacting sensitive portions of the documents for the public is as follows. As noted above, the DEIS (Appendix J) contains the Finding of Effect and the draft MOA with certain sensitive information redacted (i.e., on the character and location of archaeological and tribal historic properties). BOEM made these documents available to the public when the Draft EIS was published. The consulting parties received unredacted versions of the Finding and the draft MOA in early August 2022, which contain all the redacted information in the public versions of these documents. BOEM would like to note that we indicated in a September 27, 2022, Section 106 consulting parties meeting that BOEM would respond to the questions raised about Section 304 in writing to all consulting parties. BOEM then sent a written response to the consulting parties on November 3, 2022. BOEM disagrees with the assertion of other

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			consulting parties that the Section 106 consultation cannot proceed until the NPS is consulted with and redactions are applied to reports that contain sensitive information. As explained above, the regulations implementing Section 304 do not specify when an agency must begin consulting with the NPS. In summary, all consulting parties have received all available information and documentation associated with this Section 106 consultation, including sensitive information that could be subject to Section 304, and BOEM's website contains either redacted versions of consultation-related documents or non-technical summaries of reports that contain sensitive information. The basis for making confidential the summary and recordings of the prior two Section 106 meetings (as opposed to redacting sensitive portions and making the summary and recordings public) is as follows. The Section 106 meeting summaries and recordings contain sensitive information that could be subject to Section 304 of the NHPA. BOEM plans to produce redacted versions of the meeting summaries once we initiate Section 304 consultation with the NPS and the ACHP. The Section 106 meeting summaries and recordings were shared with all consulting parties on August 1, 2022. BOEM has made information about the project public as appropriate. For the notification of the owners of historic properties, in the NOI for the Project, BOEM identified its intent to inform its Section 106 consultation by seeking public comment and input regarding the identification of historic properties and potential effects to historic properties from activities associated with approval of the COP. The NEPA scoping, hearings, and review have specifically included presentation of the NHPA Section 106 process and information. The NEPA process and document posting are also used to provide public involvement, input, and review opportunities in accordance with NHPA Section 106 regulations (36 CFR 800.2(d)(3)). This includes involvement on the resolution of adverse effects on historic properties, such as through mitigation of adverse effects as provided for in the MOA. This includes assessment of effects to NHLs under NHPA Section 110(f) in conjunction with the Section 106 process. BOEM has found that the Project would have adverse effects to historic properties, including NHLs, with visual effects specifically extending to historic properties in Newport and New Shoreham, Rhode Island. These effects were found in the Finding and in the CHRVEA analyses to include cumulative adverse effects related to other reasonably foreseeable future offshore wind farm developments. Impacts on recreation and tourism are addressed in EIS Section 3.18. BOEM will continue consulting on the avoidance, minimization, and mitigation of adverse effects to historic properties under the integrated NEPA and NHPA Section 106 processes. BOEM has engaged in, currently engages in, and will continue to engage in consultation with Tribal Nations, SHPOs, and consulting parties involved in historic preservation within the development areas. Through consultation, BOEM will work to adapt and finalize the resolution of adverse effects in revision of the MOA and its attached HPTPs (see EIS Appendix J). Throughout the NHPA Section 106 consultation, BOEM has added additional consulting parties with demonstrated interest in the undertaking that have requested to participate, including federally recognized Tribal Nations, state or historical tribal governments, local governments, nongovernment organizations, and property owners. BOEM further welcomed recommendations from invited consulting parties on any organizations, local governments, or members of the public they believed BOEM should include in the consultation process as per 36 CFR 800.3(f). BOEM will continue to consider, and add as appropriate, additional consulting parties who request to participate as the NHPA Section 106 process proceeds under NEPA and the NHPA. BOEM with the assistance of Revolution Wind, LLC posted notifications to the public and for property owners in local newspapers; in public spaces (libraries and post offices); and with public agencies, municipalities, and

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			historical commissions to notify about BOEM's Finding on historic properties and for further invitation to the Section 106 consultation. BOEM additionally sent letters inviting property owners and property administrators such as local governments to consult under Section 106 in early 2023, regarding adversely affected historic properties. In addition, BOEM advertised public hearings with the release of the Draft EIS on the BOEM website for the Project as well as other media, such as local newspapers. Remote access was provided through virtual meetings, and in-person hearings were provided in local locations in Rhode Island and Massachusetts near the Project.
BOEM-2022-0045-0080	2	I. The DEIS is inadequate because it fails to take a "hard look" at impacts to cultural and historic resources in the Project Area. BOEM has failed to uphold its obligations to properly inform the public in the DEIS and through public meetings about the effects of Revolution Wind as NEPA requires. NEPA is designed to ensure that the public and decision-makers are provided with the information they need to make a considered decision about the best path forward. The statute is also designed to ensure that federal agencies have carefully and fully contemplated the environmental effects of a proposed action.2 In addition to considering impacts on the natural environment, NEPA requires federal agencies to consider impacts on historic and cultural resources.3 By focusing the permitting agency's attention on the environmental consequences of its proposed action, NEPA "ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast."4 In other words, NEPA requires that federal agencies take a "hard look" at the environmental consequences of a proposed action.5 In addition to assessing all impacts to the natural environment, BOEM must fully assess and consider all direct, indirect, and cumulative impacts on cultural and historic resources. But the DEIS falls short of NEPA mandates that require consideration of all adverse effects because BOEM has failed to integrate properly its NEPA and NHPA reviews, preferring instead to integrate in name only, but not in substance.6 BOEM has not taken a hard look at Revolution Wind, but rather has placed its thumb on the scale in favor of granting approval by considering only alternatives that could best be described as nonstarters. The Block Island and Newport Parties are longstanding stewards of some of the nation's most significant historic and cultural resources, yet BOEM refuses to consider the unique history of their communities or consider adequately the Project's specific impacts. Footnote 2: 40 C.F.R. § 1502.1; N.C. Wildlife Fed'n v. N.C. Dep't of Transp., 677 F.3d 596, 601 (4th Cir. 2012) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989)). Footnote 3: 40 C.F.R. §1508.27(b)(3); 40 C.F.R. § 1508.27(b)(8). Footnote 4: Robertson, 490 U.S. at 349. Footnote 5: Citizens Against Burlington v. Busey, 938 F.2d 190 (D.C. Cir. 1991), cert. denied, 502 U.S. 994 (1992). Footnote 6: See NEPA and NHPA: A Handbook for Integrating NEPA and Section 106 Synopsis, Advisory Council Hist. Preservation, https://www.achp.gov/digital-library-section-106-landing/nepa-andnhpa-handbook-integrating-nepa-and-section-106.	The EIS document preparation provides for a hard look at the impacts of the Project. The EIS Introduction, at Section 1.5 and 1.6, provides the methodology for the assessment of environmental impacts used for this federal action in accordance with NEPA requirements and other regulatory frameworks. Chapter 2 of the EIS provides information on how alternatives were scoped; this included providing scoping meetings for public involvement. Chapter 3 of the EIS identifies the affected environment (including as it relates to cultural resources and historic properties), provides the basis for IPFs for affected resources, and analyzes impacts. BOEM is addressing all of the regulatory requirements of the NHPA Section 106 process, including NEPA substitution, as it proceeds through the NEPA analyses. BOEM informed the public and all NHPA Section 106 consulting parties that would use the NEPA process to substitute for the steps in the Section 106 process when it releases the NOI for the Project. BOEM has engaged in, currently engages in, and will continue to engage in consultation with Tribal Nations, SHPOs, ACHP, and consulting parties involved in historic preservation within the development areas. This has included and will continue to include parties at Block Island and Newport, Rhode Island, regarding cultural resources identification, assessment of effects, and resolution of adverse effects on historic properties.
BOEM-2022-0045-0080	9	Each of our clients' historic properties were purpose-built to take advantage of pristine, uninterrupted ocean views—an inseparable part of their context. The development of their properties also demonstrates broad patterns of history, particularly in terms of the evolution, preservation, and maintenance of ongoing summer resort communities. Furthermore, their historic properties maintain connections to living communities who have come to Block Island and Newport since their development for multiple generations. Yet BOEM has ignored how Block Island's and Newport's historic properties and their associated ocean landscape could be eligible for listing in the National Register as a historic landscape or even as a traditional cultural property.	Historic properties, including historic landscapes or TCPs, are those listed on the NRHP or eligible for listing on the NRHP and are defined as historic districts, sites, buildings, structures, or objects. The identification and evaluation of historic properties under the EIS and for the purposes of NHPA Section 106 review include historic districts, sites, buildings, structures, and objects in the APE for the Project. The APE extends to historic properties at Block Island and Newport, Rhode Island (see EIS Section 3.10). BOEM is applying the EIS documentation, and supporting documentation as referenced in the EIS, in BOEM's reasonable and good faith efforts to identify historic properties, in accordance with 36 CFR 800.4. These efforts include BOEM taking into account past planning, research and studies, the magnitude and nature of the Project undertaking and the degree of federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. BOEM has produced the Finding (see EIS Appendix J) for BOEM's determination of adverse effects pursuant to the undertaking. BOEM is applying the criteria of adverse effect from 36 CFR 800.5 et seq. and applying the special requirements for minimizing harm to NHLs at 36 CFR

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			800.10 and for Section 110(f) compliance. BOEM remains in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106.
BOEM-2022-0045-0080	10	In addition, BOEM must give more serious consideration to construction impacts in its final analysis of impacts to historic properties. Proposed construction is expected to cause significant adverse effects to historic properties within the Project Area and Area of Potential Effects, something the DEIS does not address with any substance. Prolonged, constant, and bright lights will be required to construct the WTGs, and this lighting will cause major impacts to Block Island's and Newport's views for a significant period. The DEIS does not discuss fully how Revolution Wind will address potential lighting impacts, including during the construction phase, other than effectively dismiss them. However, our clients are especially concerned about lighting impacts to the dark night sky both during and after construction and urge BOEM to take a hard look at these impacts and mandate ADLS. In addition, BOEM should also consider visual impacts of lighting at each proposed turbine's base, reflections caused by weather conditions, and reflections on the ocean's surface, as well as ways to minimize or mitigate those impacts.9 Footnote 9: The DEIS notes that lighting has the potential to adversely affect tourism visitation rates, employment and economic activity in service industries that support tourism. DEIS at 3.11-29. See also DEIS at 3.12-14.	As described in EIS Chapter 2 under the Proposed Action Alternative, all structures would have appropriate markings and lighting in accordance with USCG and International Association of Marine Aids to Navigation and Lighthouse Authorities guidelines. This includes where navigational lighting would be placed near the base, midway WTG towers, and on the WTG nacelles. Weather or atmospheric conditions are considered, as is distance to historic properties, which would ameliorate the effects of lighting impacts such as in surface reflection. The EIS also considers that existing ambient lighting would reduce the impacts of Project lighting at some locations and, therefore in contrast, be greater where darker skies prevail; see for example the Light subsection at Section 3.20.2.2. Construction lighting as well as navigation lighting were taken into account in the analysis of impacts on cultural resources in EIS Section 3.10. Lighting is specifically analyzed as an IPF for cultural resources, and lighting was found to contribute to adverse effects on historic properties, where reaching moderate to major impact levels in the analyses. These impacts would continue through the life of Project, with construction and decommissioning introducing temporary effects during their active periods and O&M causing long-term impacts from lighting. ADLS is a planned element of the Project that would reduce the effects of lighting. Avoidance, minimization, and mitigation of adverse effects to historic properties, including from the visual impacts of lighting and other Project elements, are addressed by the MOA and its attached HPTPs (see EIS Appendix J). Also in EIS Appendix J, the Finding (see its Section 5.1.2.1) also specifically considers adverse effects from construction and installation lighting, and discusses this in context of consideration of Project alternatives considered, cross-referencing to the EIS
BOEM-2022-0045-0080	3	II. The DEIS is incomplete because it fails to assess adequately Revolution Wind's cumulative impacts to the Town of New Shoreham and City of Newport. Multiple wind farms are in development off the coasts of Rhode Island and adjacent states. These offshore wind projects will have both separate and cumulative adverse visual impacts upon historic properties, sites, and districts listed or eligible for listing in the National Register of Historic Places. This Project, and how it is evaluated and permitted, will set a precedent for upcoming projects in the area and along the entire Atlantic Coast; therefore, it is essential to apply consistent criteria to this project and subsequent future sites. Due to the historic integrity of historic properties within the Project Area and Area of Potential Effects, BOEM must establish and implement best practices. Based on the omissions described above, the DEIS should be amended to reflect—and the Final EIS should include—a complete cumulative assessment of all impacts to historic and cultural properties and include additional cumulative visual simulations for the Town of New Shoreham's and City of Newport's historic properties, including those reasonably foreseeable effects that Revolution Wind, South Fork Wind, Sunrise Wind, and other planned projects will generate. Moreover, the DEIS fails to incorporate best practices and minimum guidelines that would apply to all offshore wind developments near the Town of New Shoreham and City of Newport. In specifically requiring cumulative impacts analyses, NEPA recognizes the significant effect that reasonably foreseeable projects can have on the surrounding landscape beyond the scope of a single development. However, BOEM's analysis and methodology for assessing cumulative impacts in the DEIS are confusing and unclear. Revolution Wind, and how it is evaluated and permitted, influences permitting for all future projects in the area. Consulting parties and the public have a right to understand BOEM's conclusions and how it arrived at them. Currently, no reasonable person can interpret them. According to the Cumulative Historic Resources Visual Effects Analysis, there will be at least an additional 958 additional WTGs up to 873 feet high present in the Area of Potential Effects for Revolution Wind, with thousands more expected throughout the East Coast. 10 It is concerning, then, to see the lack of minimum guidelines and best practice standards established for offshore wind projects in the United States, especially as they relate to adverse visual impacts upon National Historic	The EIS analyzes the cumulative impacts of the Project in relation to other reasonably foreseeable future offshore wind projects. These analyses specifically include cumulative analysis of adverse effects from cumulative visual impacts to aboveground historic properties (also referred to as NRHP-eligible viewshed resources), inclusive of these historic properties as they occur at the City of Newport and the Town of New Shoreham, Rhode Island. Visual simulations that depict the buildout of the Project and other reasonably foreseeable future wind farm projects that would be visible from KOPs at New Shoreham and at Newport are provided with the CHRVEA, which the EIS cites in EIS Appendix B. BOEM's 2020 Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585 and BOEM's (Sullivan et al.) 2021 Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States (cited in EIS Appendix B) were followed in the compilation of the HRVEA and CHRVEA that the EIS references. As further noted at EIS Section 3.1, BOEM's 2019 study National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (cited in EIS Appendix B) developed reference tables that evaluate potential impacts associated with ongoing and future offshore wind and non–offshore wind activities. The content of these tables has been re-evaluated in Appendix E1 to determine the relevance of each IPF to each resource analyzed in the EIS. Updates have been made to the presentation of cumulative impacts in the Final EIS to improve readability and more clearly delineate impacts from the action against current and future baseline conditions. Practices planned to assist in avoiding, minimizing, or mitigating impacts to historic properties, including those at New Shoreham and Newport, include the use of ADLS and

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		Landmarks and historic properties, sites, and districts listed or eligible for listing in the National Register of Historic Places. It is essential to apply consistent criteria to this project and subsequent future sites. Due to the high cultural and historic sensitivity of the Town of New Shoreham's and City of Newport's numerous ocean-facing historic properties, best practice criteria must be applied. Minimum standards should include: • Requiring the least impactful nighttime lighting, such as ADLS; • Requiring all windfarms in a specific region to use the same non-reflective paint color, determined to be most effective in minimizing the visual impacts, per specific atmospheric/geographical conditions of the lease sites; • Establishing minimum set-back standards from land, with specific considerations for historic landmarks and areas with tourism-driven economies; • For communities with historical significance, BOEM should help ensure that local stakeholders receive fair and direct access to any state and federal agencies or resources, which may provide critical regulatory guidance on how best to avoid, minimize, and mitigate the local impacts of offshore windfarms. This support would be provided independent of the Section 106 process, and would, for example, identify and encourage dialogue between communities with their State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP); and • Requiring—to the extent to which harm to historic and cultural resources cannot be avoided or minimized—appropriate project mitigation measures to offset the impacts to communities, such as community benefit agreements, offshore wind mitigation trust funds, or other economic development arrangements, as are standard in the offshore wind industry globally. At this critical juncture in the development of the U.S. offshore wind industry, stakeholders are open minded, if not supportive, of a successful industry that shares benefits with local communities who will bear the brunt of adverse impacts and certain risk of loss to their economies. Footnote 10: Cumulative Historic Resources Effects Analysis – Revolution Wind Farm and Revolution Export Cable Project, 31-38 (August 2022).	general application of paint colors (no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey) that conform to BOEM's 2021 Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development (cited in EIS Appendix B). BOEM has engaged in, currently engages in, and will continue to engage in consultation with federally recognized Tribal Nations, SHPOs, and consulting parties and the public on historic preservation within the development areas. BOEM continues to consult on mitigation of adverse effects to historic properties with all required and interested parties, as reflected under EIS Appendix J. BOEM will consider mitigation "trust funds" as proposed in consultation on potential mitigation measures.
BOEM-2022-0045-0080	4	III. BOEM has violated the letter and spirit of NEPA and the NHPA by refusing to subject its permitting review to public scrutiny. To the extent that the DEIS relies on information developed through the Section 106 process, BOEM has violated Section 304 of the NHPA by refusing to make public certain reports that would assist the public in determining impacts to the community. Section 304 allows federal agencies to keep confidential certain types of sensitive information about historic properties such that disclosure would result in a significant invasion of privacy, cause damage to the historic property, or impede the use of a traditional religious site by practitioners.11 Determining which material to keep confidential must be made in coordination with the Secretary of the Department of the Interior through the National Park Service. The policy behind the confidentiality rule is designed to balance the policy of transparency of environmental permitting laws against historic preservation needs where public disclosure could lead to harm. No consulting party has requested confidentiality in this matter. Despite this fact, BOEM has apparently made the historic resource reports confidential in their entirety. To our knowledge, BOEM has not coordinated its decision with the National Park Service or the Advisory Council on Historic Preservation to keep confidential nearly every document concerning historic property, visual, and cumulative effects assessments as Section 304 requires. Instead, BOEM and Ørsted have prevented the public from having access to the identification of historic properties, adverse effects, visual simulations, and the proposed resolution of adverse effects. For example, BOEM has done so by removing or not posting on its project websites the following documents:12 Marine Archaeological Resources Assessment, Terrestrial Archaeological Resources Assessment, Memorandum on the Updated Historic Resources Visual Effects Analysis, Offshore Historic Resources Visual Effects Analysis, Onshore Historic Resources Visual Effects Analysis, Cumulative Historic Visual Effects Analysis, the memorandum on BOEM's Area of Potential Effect Delineation, BOEM's proposed Memorandum of Agreement to resolve adverse effects, and Ørsted's proposed mitigation measures to offset adverse effects. Nor has BOEM made public all consultation meeting transcripts, presentations, or meeting summaries. Instead, BOEM has kept the public from having access to this information and purported to limit what consulting parties can share, claiming some unspecified need for confidentiality. As elected officials with an affirmative duty to keep their community informed, our clients find these vague requirements particularly troubling. Moreover, BOEM has refused to respond to legitimate questions concerning the basis for its nondisclosure, thus creating confusion among consulting parties, especially local governments who need public input to assist with consultation. Therefore, BOEM must make public all documents associated with the Revolution Wind and all other offshore wind consultations, with appropriate redactions as necessary in coordination with the National Park Service and Advisory Council on Historic Preservation and restart the period for public comment. We also request that BOEM hold in-person public meetings on Block	BOEM received previous consulting party requests for clarification regarding documentation provided in this NHPA Section 106 consultation that is publicly available and clarification regarding BOEM's NHPA Section 304 process for the Project. The following reiterates BOEM's November 3, 2022, responses to the same or similar comments received on the Draft EIS from the same parties. BOEM has consulted with the ACHP and coordinated with the NPS about a plan on how to handle sensitive information potentially subject to Section 304 of the NHPA. BOEM has not yet formally initiated the Section 304 consultation pursuant to 36 CFR 800.11(c) for the Section 106 consultation on the Project. The NPS has informed us that the Section 304 regulations of the NHPA do not specify when or if an agency is required to initiate consultation with the Secretary of the Interior within the course of an ongoing Section 106 consultation. In addition, the NPS advised BOEM that it is acceptable for a federal agency to wait to disclose project findings to the public until identification of historic properties, including sites of religious and cultural significance to tribes, and until potential effects to these properties have concluded and consensus evaluations of NRHP eligibility have been completed. From the beginning of the Section 106 consultation for the Project, BOEM has planned to distribute these reports that contain sensitive information to the consulting parties and to post publicly available summaries or redacted versions of Section 106–related documents to BOEM's website. The consulting parties have received all the available information and documentation associated with this Section 106 consultation, including sensitive information that could be subject to Section 304. The basis for making confidential all of the revised technical reports (reports associated with the preparation of the Draft EIS) as opposed to redacting sensitive portions and making the documents public is as follows. The documents could contain sensitive information that could be subject to Section 304 of the NHPA. We have publicly available summaries of the revised technical reports—the MARA, TARA, and offshore HRVEA—posted to BOEM's website for the Project (https://www.boem.gov/renewable-energy/state-activities/revolution-wind-farm-construction-and-operations-plan). These

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		Island and in the City of Newport during this period of time. *** For the reasons discussed above, BOEM should revise the DEIS so that it fully identifies historic properties within the Area of Potential Effects, adequately assesses adverse effects including cumulative effects, and resolves adverse effects appropriately for all of these properties. In addition, because BOEM has refused to allow the public to review information related to Revolution Wind, it must reissue the DEIS and its associated appendices and allow the public a reasonable opportunity to comment. Footnote 11: 54 U.S.C. § 307103; 36 C.F.R. § 800.11(c). Footnote 12: https://www.boem.gov/renewable-energy/state-activities/revolution-wind-farm-construction-and-operations-plan	summaries were posted shortly after the Project's Draft EIS was made publicly available. The CHRVEA is available on BOEM's website for this Project under the visual simulations tab (https://www.boem.gov/renewable-energy/state-activities/revolution-wind). The Draft EIS contains the Finding and the draft MOA with certain sensitive information redacted. The Finding in the Draft EIS includes information regarding how BOEM has delineated its APE for the Project. All consulting parties received unredacted copies of the MARA, TARA, HRVEA, memorandum on the updated HRVEA (offshore), CHRVEA, and memorandum on BOEM's APE delineation. The basis for making confidential the Finding and draft Memorandum of Agreement and redacting sensitive portions of the documents for the public is as follows. As noted above, the DEIS (Appendix J) contains the Finding of Effect and the draft MOA with certain sensitive information redacted (i.e., on the character and location of archaeological and tribal historic properties). BOEM made these documents available to the public when the Draft EIS was published. The consulting parties received unredacted versions of the Finding and the draft MOA in early August 2022, which contain all the redacted information in the public versions of these documents. BOEM would like to note that we indicated in a September 27, 2022, Section 106 consulting parties meeting that BOEM would respond to the questions raised about Section 304 in writing to all consulting parties. BOEM then sent a written response to the consulting parties on November 3, 2022. BOEM disagrees with the assertion of other consulting parties that the Section 106 consultation cannot proceed until the NPS is consulted with and redactions are applied to reports that contain sensitive information. As explained above, the regulations implementing Section 304 do not specify when an agency must begin consulting with the NPS. In summary, all consulting parties have received all available information and documentation associated with this Section 106 consultation, including sensitive information that could be subject to Section 304, and BOEM's website contains either redacted versions of consultation-related documents or non-technical summaries of reports that contain sensitive information. The basis for making confidential the summary and recordings of the prior two Section 106 meetings (as opposed to redacting sensitive portions and making the summary and recordings public) is as follows. The Section 106 meeting summaries and recordings contain sensitive information that could be subject to Section 304 of the NHPA. BOEM plans to produce redacted versions of the meeting summaries once we initiate Section 304 consultation with the NPS and the ACHP. The Section 106 meeting summaries and recordings were shared with all consulting parties on August 1, 2022.
BOEM-2022-0045-0080	5	Attachment A, comment 1: We write on behalf of our clients, the Town of New Shoreham, RI, and Southeast Lighthouse Foundation (the "Block Island Parties"), which are joined by the City of Newport, RI; Newport Restoration Foundation, Preservation Society of Newport County, and Salve Regina University (the "Newport Parties"). Our clients request that BOEM conduct additional visualizations so that consulting parties and the public have an accurate and realistic understanding of Revolution Wind's visual effects. BOEM's confusing technical reports, specifically the Historic Resources Visual Effects Assessments (HRVEAs) and Cumulative HRVEA (CHRVEA), cannot reasonably be considered complete without substantial revisions. BOEM must also make public all technical reports. BOEM has offered no legitimate reason exists to justify their nondisclosure. As a general matter, we concur with BOEM's identification of historic properties. We agree with BOEM's conclusion that the maritime nature of our clients' historic properties and seaward views contribute to the maintenance of their integrity and continued listing or eligibility for listing in the National Register of Historic Places. We agree with BOEM's observation that wind turbines will unquestionably change the ocean landscape integral to historic properties in numerous ways. As BOEM explained: The introduction of the wind turbines would likely constitute a change in the physical environment of an above-ground [historic] property. This is particularly true for those properties for which open views of the ocean are integral, such as	The visualizations prepared for the Project (i.e., in the VIA, HRVEA, and CHRVEA referenced in the Draft EIS) present a broad range of lighting and atmospheric conditions appropriate to assess the potential visual effects to historic properties located within the visual APE. BOEM finds the documentation acceptable and sufficient to enable any reviewing party to understand the basis of BOEM's determinations and findings on the undertaking under NHPA Section 106 (per 36 CFR 800.11(a)). The HRVEA and supporting VIA visualizations are not found by BOEM to underrepresent the size or number of WTGs. Numerous visualizations are provided in the VIA, HRVEA, and CHRVEA for a range of high-contrast conditions from various KOPs. It is neither feasible nor required to simulate all potential viewing conditions for BOEM to determine whether individual historic properties would be adversely affected and to accurately characterize the nature of any such adverse effects. The visualizations presented in the HRVEA include five KOPs in the City of Newport and a sixth on Sachuest Point. The KOPs were selected to provide a range of vantages and elevations (e.g., bluffs, coastlines, landscape features) with unobstructed views toward the Project and, therefore, represent views with the greatest scope of change from existing

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		lighthouses and recreation areas. . . . [E]ven those properties which would likely experience reduced visual effects resulting from existing modern elements, partially obstructed visibility by landscape features (vegetation and topography) or other buildings would be potentially affected by the Project due to its unprecedented size and scale.1 Indeed, Revolution Wind's "unprecedented size and scale" will harm the integrity of our clients' historic properties in significant ways as well as the broader community of historic properties for which our clients advocate, all of which depend contextually on an ocean landscape and unimpeded vistas of that landscape. In addition, the "number and density" of offshore wind farm turbines create a "visual mass" that will have a presence of "large-scale modern infrastructure" on the ocean's horizon.2 BOEM is correct to acknowledge Revolution Wind's disruptive visual intrusion on Block Island's, Newport's, and other communities' ocean-facing landscapes. However, if BOEM intends to move forward with using these technical reports, it must amend them to include comprehensive visualizations from additional properties that it has identified as part of the so-called "Preliminary Area of Potential Effects"—and not just more visual depictions, but accurate, useful ones. Offshore wind energy projects have dramatic visual effects on the landscapes where they are placed, and the public has a right to understand what these projects will look like. As researchers at Argonne National Laboratory Visual Resource Analysis Laboratory observed: The seascape visual impacts associated with offshore wind facilities are without precedent; the facilities are very large, with enormously tall structures having colors and geometry that contrast strongly with natural seascapes. The synchronized sweeping movement of the massive+543:544 blades during the day and synchronized flashing of the lighting at night contribute to the facilities' visibility over very long distances. These impacts are extremely difficult to mitigate, and the only truly effective means of reducing the impacts in a seascape is to site the facilities away from sensitive visual resource areas and viewing locations. Because distance is so important to reducing or avoiding impacts, an accurate understanding of the relationship between distance and visibility of utility-scale offshore wind facilities in real settings is critical to the optimal siting of new facilities.3 BOEM's current visual simulations are inadequate to show the actual impact of the wind turbines and associated infrastructure, in violation of BOEM's own guidelines: each "Key Observation Point" has only one viewpoint simulated.4 BOEM appears to have cherry-picked these observation points to minimize the appearance of adverse visual effects. And BOEM appears to have cherry picked timing of its visual simulations: 23 of the base photos were taken in the summer; 11 in the fall, 5 in the winter, and zero in the spring. According to BOEM's hypothetical New York study, summer tends to have the lowest average visibility, followed by spring, winter, and fall with the highest visibility.5 For purposes of Revolution Wind, BOEM should have taken baseline photographs from historic properties during common weather conditions and periods of maximum meteorological visibility under multiple lighting conditions for each representative property. But BOEM skipped these steps, contrary to its own practices.6 In addition, simulations commonly under-represent turbine number and size, simulation frames are too narrow to adequately represent human vision, and simulations under-estimate how many turbines are visible from a single landscape position.7 Moreover, BOEM does not have the present capability to evaluate the accuracy of existing visual simulations against the post-development reality of what Revolution Wind—and other industrial scale offshore wind energy development projects—will look like, which undermines their reliability for present purposes. Furthermore, there are too few vantage points to properly assess impacts, no simulations depicting construction, sunrise, or sunset for these missing vantage points at times when the turbines will be most visible, and no consideration of what Revolution Wind and other wind farms will look like at night and during construction, when cumulative lighting impacts are expected to be significant and continue for years (possibly until 2030). Simulations included in the HRVEA and CHRVEA are too limited in both number and scope, and they fail to consider visuals of the turbines systematically during all seasons at multiple times of day. Thus, BOEM cannot reasonably rely on its current visuals as realistic or accurate. Strikingly, there are no simulations from Newport's numerous National Historic Landmarks (NHLs); likewise, BOEM's simulations for Block Island properties are wholly inadequate, including limited views from the Southeast Lighthouse NHL. 8 BOEM cannot shirk its burden to determine adverse effects and expect consulting parties to guess what Revolution's visual effects will look like. BOEM has a legal duty to focus on NHLs as part of its duty to use all possible planning to minimize harm, as required by Section 110(f) of the National Historic Preservation Act ("NHPA"), yet BOEM has effectively ignored them. BOEM must amend its visualizations and simulations to assess accurately adverse impacts and to determine appropriate avoidance, minimization, or mitigation measures from useful vantage points and additional conditions. Observation points should include all historic districts, as well as all properties listed or eligible for listing in the National Register, and all National	conditions. The visualizations presented in the HRVEA were created methodically to accurately characterize views of the Project from representative viewpoints throughout the APE. Consistent with BOEM's guidance and extensive analyses of visual effects conducted over the previous decade on offshore wind facilities, the VIA and HRVEA contain extensive field photography and visualizations to accurately depict how the Project would appear from vantages throughout the APE. The Project visualizations have been prepared by qualified consultants, and reviewed by BOEM's visual and Section 106 subject matter experts, to best support robust and accurate characterization of Project visibility. BOEM is uniquely experienced in preparing and evaluating visual studies for offshore wind facilities, and has consistently moved to incorporate best practices from ongoing research. BOEM's guidance and requirements are applied sufficiently in the HRVEA, CHRVEA, and VIA for the Project. BOEM's review and consultation on the Project remain ongoing, and BOEM welcomes continued input that will improve its NHPA Section 106 and other regulatory reviews and consultation. Please note that simulations and visualizations are only one supporting aspect of BOEM's analyses for adverse effects to historic properties, including NHLs and TCPs important to Tribal Nations, and not the entire basis of the assessment of effects. The VIA and HRVEAs for the Project provides detail on the fuller contexts of the visual impacts analyses. The VIA, HRVEA, and CHRVEA specifically provide Project simulations from and directly at NHL viewpoints at Newport Cliff Walk and Block Island Southeast Lighthouse and from TCP viewpoints at Massachusetts offshore islands. The NHL supplemental documentation adds visual simulations and information for all 12 NHL locations in the APE, providing further simulations and visualizations specific to these historic properties.

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		Historic Landmarks located within the Area of Potential Effects, including additional points in Newport County as well along Block Island's Atlantic coast. Revolution Wind will irreparably alter the setting of these places important to our clients, along with myriad other historic properties, including traditional cultural properties that are significant to tribes. Footnote 1: CHRVEA at 5. Footnote 2: CHRVEA at 20. Footnote 3: Robert G. Sullivan, Leslie B. Kirchler, Jackson Cothren, Snow L. Winters, Offshore Wind Turbine Visibility and Visual Impact Threshold Distances, 15 ENVIRONMENTAL PRACTICE 1 at 33-49 (March 2013) (emphasis added). Footnote 4: According to BOEM's INFORMATION GUIDELINES FOR A RENEWABLE ENERGY CONSTRUCTION AND OPERATIONS PLAN (COP) (May 27, 2020, Attachment A, Best Management Practices, at 28, Revolution Wind visualizations fall far short of best practices. According to BOEM, best practices require: • Lessees and grantees for wind projects should address key design elements, including visual uniformity, use of tubular towers, and proportion and color of turbines. • Lessees and grantees for wind projects should use appropriate viewshed mapping, photographic and virtual simulations, computer simulation, and field inventory techniques to determine, with reasonable accuracy, the visibility of the proposed project. Simulations should illustrate sensitive and scenic viewpoints. • Lessees and grantees must comply with FAA and USCG requirements for lighting in accordance with BOEM's "Draft Proposed Guidelines for Providing Information on Lighting and Marking of Structures Supporting Renewable Energy Development," dated October 2019, available at https://www.boem.gov/guidance, and should minimize visual impacts through appropriate application. • Lessees and grantees should seek public input in evaluating the visual site design elements of proposed wind energy facilities. • Within FAA guidelines, directional aviation lights that minimize visibility from shore should be used. Footnote 5: BOEM, Renewable Energy Viewshed Analysis and Visualization Simulation for the New York Outer Continental Shelf: Compendium Report (2015) ("Compendium Report"). Footnote 6: BOEM's Compendium Report provides: "Baseline photographs were taken at each KOP in each of the four seasons during common weather conditions and periods of maximum meteorological visibility. . . . Photographs were taken systematically to ensure that four different lighting conditions were recorded (including mornings, mid-day, afternoon, and nighttime)." Note 5, supra. Footnote 7: Robert C. Corry, A Case Study on Visual Impact Assessment for Wind Energy Development, 29 JOURNAL OF THE INT'L ASS'N FOR IMPACT ASSESSMENT 303 (2011). Footnote 8: Because of their NHL status and concentrated number of historic properties facing the ocean, it is nconceivable that BOEM would not have made Bellevue Avenue Historic District, Ochre Point-Cliffs Historic District, and the Ocean Drive Historic District the primary focus of its Newport analysis. BOEM's choice to ignore these NHLs, but then cite Kay Street-Catherine Street-Old Beach Road as a representative example of "Historic Homes and Structures" undermines BOEM's credibility since it is not entirely clear whether Revolution Wind would be visible from there.	
BOEM-2022-0045-0080	6	Attachment A, comment 2: Moreover, it is not clear how BOEM has defined or justifies "impact classes" to determine whether Revolution Wind will cause adverse effects. Grouping properties into ranges, such as "less than 12 miles," "12-24 miles," "24-30" miles, and "greater than 30 miles" to decide which properties will experience adverse effects without showing the public what turbines will look like renders the categories useless. Consulting parties have a right to understand the methodology BOEM relied on to create these classes and need to see a complete inventory of visualizations. Without these, it is impossible to verify whether BOEM is correct about how offshore wind turbines are perceived and the extent to which they alter the maritime setting. Likewise, our clients are concerned about lighting impacts to the dark night sky both during and after construction, which will require continuous lighting for years. BOEM's technical reports do not discuss how Revolution Wind will adequately address potential lighting impacts, thus rendering it impossible for anyone to understand the nature and extent of this adverse environmental effect. Four nighttime simulations simply are not sufficient. In addition, BOEM should more carefully consider visual impacts of lighting—at the top of each turbine and at each proposed turbine's base—as well as the potential added impact of the reflection of those lights on the ocean's surface, which will magnify lighting effects. Contrary to BOEM's contention at the most recent consulting party meeting, it is hard to understand how water ripples in the ocean would eliminate this threat.	The EIS analyzes the cumulative impacts of the Project in relation to other reasonably foreseeable future offshore wind projects. These analyses specifically include cumulative analysis of adverse effects from cumulative visual impacts to aboveground historic properties (also referred to as NRHP-eligible viewshed resources), inclusive of these historic properties as they occur at the City of Newport and the Town of New Shoreham, Rhode Island. Visual simulations that depict the buildout of the Project and other reasonably foreseeable future wind farm projects that would be visible from KOPs at New Shoreham and at Newport are provided with the CHRVEA, which the EIS references in EIS Appendix B. BOEM's 2020 Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585 and BOEM's 2021 Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States (cited in EIS Appendix B) were followed in the compilation of the HRVEA and CHRVEA that the EIS references. As further noted at EIS Section 3.1, BOEM's 2019 study National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North

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		Next, it is not clear how BOEM arrived at its 6.4 to 95.7% figure9 for determining how much more cumulative impacts Revolution Wind would add to adverse visual effects considered in BOEM's analysis; whether BOEM's calculations considered nighttime aviation hazard lighting and lighting during construction; and/or whether and to what extent use of aircraft detection lighting systems might change its accuracy. Additionally, BOEM has not considered the possibility of developers employing larger turbines in line with current industry trends, or what would happen if development leases were extended beyond their current lease periods—relevant factors that would render the CHRVEA meaningless. For all these reasons, the CHRVEA's methodology concerning visual impacts is fundamentally flawed. The Block Island Parties and Newport Parties request that BOEM revise the technical reports to include visualizations for all NHLs, include visualizations from these sites at all times of day and during all seasons, reevaluate CHRVEA's conclusions based on the aviation hazard lighting, construction lighting, and light reflection on the ocean's surface, and evaluate the potential impacts of taller turbines to be deployed in offshore wind developments. Footnote 9: CHRVEA at i.	Atlantic Outer Continental Shelf (cited in EIS Appendix B) developed reference tables that evaluate potential impacts associated with ongoing and future offshore wind and non–offshore wind activities. The content of these tables has been re-evaluated in Appendix E1 to determine the relevance of each IPF to each resource analyzed in the EIS. Updates have been made to the presentation of cumulative impacts in the Final EIS to improve readability and more clearly delineate impacts from the action against current and future baseline conditions. Practices planned to assist in avoiding, minimizing, or mitigating impacts to historic properties, including those at New Shoreham and Newport, include the use of ADLS and general application of paint colors (no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey) that conform to BOEM's 2021 Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development. BOEM has engaged in, currently engages in, and will continue to engage in consultation with federally recognized tribes, SHPOs, and consulting parties and the public on historic preservation within the development areas. BOEM continues to consult on mitigation of adverse effects to historic properties with all required and interested parties, as reflected under EIS Appendix J. BOEM will consider mitigation "trust funds" as proposed in consultation on potential mitigation measures. The CHRVEA includes numerous visualizations of cumulative buildout scenarios that depict how WTGs would appear within the APE. Distance thresholds applied in the VIA, HRVEA, and CHRVEA are consistent with previous studies of offshore wind that document diminished visual contrast due to atmospheric perspective, as cited variously in these technical reports. The distance zones, as applied in the VIA, HRVEA, and CHRVEA, are a useful and a sound means of characterizing which WTGs contribute to adverse visual effects to individual historic properties and for evaluating cumulative visual effects where they occur. However, as presented in the VIA, HRVEA, and CHRVEA, distance thresholds are not the sole method of assessment of effects that were utilized. Visualizations make up one tool used to illustrate the distribution of planned WTGs in relation to aboveground historic properties in the visual APE and distance thresholds one comparative assessment that was applied. Regarding lighting impacts, the number of light sources potentially visible from each historic property was analyzed as part of the HRVEA and CHRVEA. Earth's curvature will substantially limit the possibility of reflections and shimmer from light sources based on the distances separating WTGs and the OSSs from historic properties in the visual APE for the Project. As indicated in EIS Appendix J, avoidance, minimization, and mitigation measures for historic properties are drafted in both the MOA and the HPTPs attached to it. Under the MOA, adverse effects from the Project to historic properties, including NHLs, would be avoided, minimized, or mitigated in accordance with the NHPA Section 106 regulations (36 CFR 800) and in compliance with Section 110(f). Measures committed to by the Lessee to effectively reduce nighttime lighting would include the use of an ADLS that would drastically reduce the amount of time in which the higher red lights are lit at night. With ADLS, flashing red lights would not be perpetual during nighttime/dark conditions. The range of potential effects and numbers of historic properties have been changed in the revised HRVEA and CHRVEA, released to NHPA Section 106 consulting parties in August 2022 and reflected in EIS analysis released to the public in September 2022. The percentage(s) of cumulative effects described in the CHRVEA were adjusted with these revisions. In response to the comment, the revised CHRVEA, in August 2022, presented further information on the percentage contribution estimated for the Project's cumulative effects. As stated in the CHRVEA, the cumulative effects include daytime visibility and nighttime lighting for Project offshore wind components, including construction. The use of

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			ADLS would not change the accuracy or precision of the percentage(s); however, it would assist in minimizing adverse effects overall. Per the revised CHRVEA, the Project would contribute proportionally between nearly 10% and nearly 90% of the cumulative adverse effect, owing to the location and intensity of the foreseeable buildout attributed to other offshore wind energy development activities relative to the location of the historic property. This is based on full buildout of the Project (to up to 100 WTGs and two OSSs) and all other reasonably foreseeable offshore wind projects currently planned in the adjacent lease areas (modeled at 955 WTG and three OSSs). The proportion of visible WTG elements added by the Project ranges from 9.6% at the nearest TCP, where all modeled WTGs and OSS would potentially be visible, to 87.2% at the historic U.S. Weather Bureau Station at Block Island, where the Project WTGs would be visible in greater numbers than the combination of all other future wind farms planned in adjacent OCS lease areas (41 Project WTGs would potentially be visible there versus six WTGs from other planned projects). The PDE in the Lessee's COP under BOEM review includes a maximum turbine size of 12 MW. However, BOEM's EIS contemplates an alternative (Alternative F) that would allow for use of greater-capacity WTGs so long as they fit within the physical parameters of the PDE presented in the COP (i.e., as long as the size and physical footprint of the WTGs are no greater than the range submitted in the COP). This alternative is considered in BOEM's Finding under NHPA Section 106 in EIS Appendix J and in EIS Section 3.10. Any changes outside of BOEM's assessed PDE or alternative parameters, including changes to the life of Project (which is specified in the lease), would require submission of a revised COP, which would not meet the purpose and need and be functionally equivalent to selection of the no action alternative under NEPA. BOEM has provided supplemental visualizations of the Project in a document by Revolution Wind, LLC, Revolution Wind Farm National Historic Landmarks, which BOEM has made available to the public on its Project website here: https://www.boem.gov/renewable-energy/state-activities/revolution-wind#tabs-4221.
BOEM-2022-0045-0080	7	Attachment A, comment 3: Finally, we request that BOEM immediately make all technical reports public. Congress passed NEPA and the NHPA to help ensure that the public could understand the effects of government undertakings. Keeping reports confidential undermines this public intent, especially where it does not appear that BOEM has any legitimate justification for keeping the reports confidential and exempt from the Freedom of Information Act (FOIA). We have reviewed BOEM's documents. Contrary to BOEM's assertions, they do not contain trade secrets or privileged confidential commercial or financial information. Therefore, it is not appropriate for BOEM to keep the public from reviewing them by erroneously exempting them from FOIA's disclosure requirements.	BOEM has consulted with the ACHP and coordinated with the NPS about a plan on how to handle sensitive information potentially subject to Section 304 of the NHPA. BOEM has not yet formally initiated the Section 304 consultation pursuant to 36 CFR 800.11(c) for the Section 106 consultation on the Project. The NPS has informed us that the Section 304 regulations of the NHPA do not specify when or if an agency is required to initiate consultation with the Secretary of the Interior within the course of an ongoing Section 106 consultation. In addition, the NPS advised BOEM that it is acceptable for a federal agency to wait to disclose project findings to the public until identification of historic properties, including sites of religious and cultural significance to Tribal Nations, and until potential effects to these properties have concluded and consensus evaluations of NRHP eligibility have been completed. From the beginning of the Section 106 consultation for the Project, BOEM has planned to distribute these reports that contain sensitive information to the consulting parties and to post publicly available summaries or redacted versions of Section 106–related documents to BOEM's website. The consulting parties have received all the available information and documentation associated with this Section 106 consultation, including sensitive information that could be subject to Section 304. The basis for making confidential all of the revised technical reports (reports associated with the preparation of the Draft EIS) as opposed to redacting sensitive portions and making the documents public is as follows. The documents could contain sensitive information that could be subject to Section 304 of the NHPA. We have publicly available summaries of the revised technical reports—the MARA, TARA, and offshore HRVEA—posted to BOEM's website for the Project (https://www.boem.gov/renewable-

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			energy/state-activities/revolution-wind-farm-construction-and-operations-plan). These summaries were posted shortly after the Project's Draft EIS was made publicly available. The CHRVEA is available on BOEM's website for this Project under the visual simulations tab (https://www.boem.gov/renewable-energy/state-activities/revolution-wind). The Draft EIS contains the Finding and the draft MOA with certain sensitive information redacted. The Finding in the Draft EIS includes information regarding how BOEM has delineated its APE for the Project. All consulting parties received unredacted copies of the MARA, TARA, HRVEA, memorandum on the updated HRVEA (offshore), CHRVEA, and memorandum on BOEM's APE delineation. The basis for making confidential the Finding and draft Memorandum of Agreement and redacting sensitive portions of the documents for the public is as follows. As noted above, the DEIS (Appendix J) contains the Finding of Effect and the draft MOA with certain sensitive information redacted (i.e., on the character and location of archaeological and tribal historic properties). BOEM made these documents available to the public when the Draft EIS was published. The consulting parties received unredacted versions of the Finding and the draft MOA in early August 2022, which contain all the redacted information in the public versions of these documents.
BOEM-2022-0045-0082		This comment submission is a duplicate of BOEM-2022-0045-0080 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0080 and was not coded.
BOEM-2022-0045-0099	4	We can appreciate the benefit to all mankind that alternative energy sources represent. However, being the closest landform, we would be the community most visually impacted by this project. We also would not derive any direct benefits in terms of job creation or energy supplied to our Town. We therefore feel that certain considerations are due to us as a community both in terms of limiting the impacts by the numbers and placement of turbines and other substantial monetary remediations to help offset any potential losses to our tourist economy and the revenues generated by lighthouse tours that help pay for the upkeep and ongoing restoration work on this historic structure.	Chapter 2 of the EIS provides information on how alternatives were scoped; this includes providing scoping meetings and a public comment period for public involvement. Alternatives are proposed that would limit proximity of WTGs to the surrounding islands and island communities. See EIS Section 3.11 for BOEM's presentation and analysis of Demographics, Employment, and Economics in relation to the Project's impact producing factors, including consideration of the role of the recreation and tourism in these matters. See EIS Section 3.18 for BOEM's presentation and analysis of Recreation and Tourism in relation to the Project's impact producing factors, including specific consideration of Gay Head – Aquinnah Overlook and other points of interest in the Project area and activities like sightseeing, boating, and recreational fishing. BOEM also has engaged in, currently engages in, and will continue to engage in consultation with THPOs, SHPOs, and private interests involved in historic preservation within the development areas. BOEM's consultation effort has included and will continue to include parties at Gay Head Lighthouse regarding cultural resources identified; assessment of effects; and resolution of adverse effects on historic properties, including the historic Gay Head Lighthouse.
BOEM-2022-0045-0101	1	The MPTN is generally not in opposition to the creation and use of alternative forms of energy, and recognizes our need to reduce and eliminate fossil fuel use; however, we have concerns regarding numerous aspects of various wind energy projects to be installed in areas that are culturally sensitive to the MPTN, including RWF/RWEC. The MPTN cares about the effects of the Project on Pequot and other submerged tribal cultural properties (TCPs) we know to exist, as depicted in our oral and written stories and traditions. These include village and burial sites within what BOEM refers to as ancient submerged landforms (ASLs).	Thank you for your comments. The EIS addresses submerged cultural properties, including ancient submerged landforms, in the Marine Cultural Resources subsections throughout Draft EIS Section 3.10. BOEM has engaged in, currently engages in, and will continue to engage in consultation with federally recognized Tribal Nations and their THPOs on historic preservation within the development areas.
BOEM-2022-0045-0101	43	We also monitor the potential effects such projects may have on marine life important to sustaining species important to our people such as cod, haddock, lobster, and quahog. Furthermore, the endangered North Atlantic Right Whale (NARW)—among other marine mammal species—holds deep cultural and spiritual significance to the MPTN. We are thus heavily invested in ensuring their well-being and ensuring that project construction, installation, operations and maintenance (O&M), and decommissioning activities avoid further harm to the NARW.	Thank you for your comment. BOEM understands and respects the cultural importance of marine fish and invertebrates, the NARW, and other marine species to the MPTN. The Draft EIS provides a detailed analysis of potential impacts to these species in Section 3.15 Marine Mammals, and, where appropriate, acknowledges uncertainty regarding certain impacts.
BOEM-2022-0045-0101	14	Storm Damage—Hurricane-Induced Line Outages MP-THPO Comments and Concerns • Maintenance and repairs made necessary by repeated storms will result in cumulative impacts to submerged landforms.	The Marine Cultural Resources subsections throughout DEIS Section 3.10 discusses how operations and maintenance of cables, which would include maintenance following recurring storm events (as necessary), would be addressed. This includes analyses of the impacts from Project operations and maintenance in relation to ancient submerged

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			landforms, as discussed throughout DEIS Section 3.10. Bathymetric surveys would be used to inspect and maintain the cables, including after storm events (as necessary). As described in further detail in EIS Sections 3.6 and 3.9, Revolution Wind would conduct bathymetry surveys of cable placements to confirm that cables remain buried and that rock placement and concrete mattresses remain secured and undamaged. Surveys would be performed 1 year after commissioning, 2 to 3 years after commissioning, and 5 to 8 years after commissioning. Survey frequency thereafter would depend on the findings of the initial surveys (i.e., site seafloor dynamics and soil conditions). A survey could also be conducted after a major storm event (see Section 3.9.2.2.2).
BOEM-2022-0045-0101	17	Recommended Action Items. Develop mitigation measures for the following conditions: • The cumulative impacts of storm-induced maintenance and repairs to submerged landforms.	BOEM will continue consulting with federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to historic properties, including TCPs and ancient submerged landforms. Through consultation, BOEM will work to adapt and finalize the resolution of adverse effects in revision of the MOA and its attached HPTPs (see EIS Appendix J). As Tribal Nations have requested, this would include considering tribal participation in all aspects of survey and monitoring, such as for bathymetric surveys for ensuring cable placements in relation to ancient submerged landform avoidances. Also, a hazard mitigation plan for historic properties is among the mitigation options proposed in the HPTPs, specifically in reference to storm events, and could be applicable to treatment of ancient submerged landform. The MOA in EIS Appendix J similarly provides for climate adaptation planning study and coastal resilience and habitat restoration at TCPs.
BOEM-2022-0045-0101	21	Cable Emplacement in Shallow Waters MP-THPO Comments and Concerns • Regarding cable going through shallow waters, MP-THPO is concerned that in-depth archaeological surveys were not inclusive of full searches for submerged culturally indigenous artifacts but instead focused on the avoidance of large obstructions such as boulders and on cultural heritage, which is defined as—but not extending beyond—shipwrecks within the marine environment. • The MPTN was not made aware of the actual targets until long after completion of the Marine Archaeological and Resources Assessment (MARA), which is too late to provide traditional cultural knowledge of the Project area of potential effects (APE). • Too few vibracore samples were taken along the RWEC to identify potential targets of avoidance. • The vibracore samples extracted for analysis in the WTG lease area are not at an equal depth as the planned embedment depth for securing the WTG and OSS foundations to the ocean floor. Research and Document Review Summary Section 3.10.1.1 of the DEIS, Marine Cultural Resources, addresses the RWEC through shallow waters. Twenty-seven vibracore samples along the RWEC were collected, five of which were taken in Rhode Island state waters. Three of those five samples were taken inside the West Passage of Narragansett Bay. However, the cumulative total number of Nautical miles has not been stated to compare the number of Vibracore samples taken to the overall footprint of the ECR. Additionally, the DEIS references the MARA, which is Appendix M in the COP. The MARA describes potential cultural resources and geographic features of archaeological interest that were investigated as part of the study. Per Section 7 of the MARA, SEARCH identified 19 potential submerged cultural resources within the proposed area of potential effects (APE)—Targets 1 through 11 and 13 through 20—and 10 geomorphic features of archaeological interest (Targets 21 through 30). Twenty-one targets are located within the RWF, including five geomorphic features and one resource within the South Fork Data Area (SFDA). Three targets and five geomorphic features are located along the RWEC. SEARCH recommends avoiding each potential submerged cultural resource by at least 50 meters (164 feet) from the extent of the magnetic anomalies or acoustic contacts. MPTN, however, disagrees with the assertion that "(e)very reasonable effort has been made during this analysis to identify and evaluate possible locations of archaeological sites." Section 1.3 of BOEM Document 2014-005, titled "Underwater Cultural Heritage Law Study," states that "sites once occupied by Native Americans become submerged and are preserved in situ, enabling archaeologists to piece together Native American history... The Law of the Sea (Article 149) imposes a duty on coastal states to preserve historic or archaeological items or to dispose of them for the benefit of mankind." MPTN believes that	BOEM is applying the EIS documentation, and supporting documentation referenced in the EIS, in BOEM's reasonable and good faith efforts to identify historic properties, in accordance with 36 CFR 800.4. These efforts include BOEM taking into account past planning, research and studies, the magnitude and nature of the Project undertaking and the degree of federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. BOEM has produced the Finding (see EIS Appendix J) for BOEM's determination of adverse effects pursuant to the undertaking. BOEM is applying the criteria of adverse effect from 36 CFR 800.5 et seq. and applying the special requirements for minimizing harm to NHLs at 36 CFR 800.10 and for Section 110(f) compliance. BOEM remained in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106. For all offshore archaeological investigations, as presented in the MARA, BOEM analyzed geophysical and remote sensing techniques (e.g., side-scan sonar) to identify where not only possible historic shipwrecks would be but also ancient submerged landforms, which may contain archaeological assemblages associated with Native American heritage. Identification of soil and sediment deposits onshore and offshore guided the placement, number, and depth of subsurface probes (vibracores offshore and shovel tests onshore) and helped confirm the presence or absence of soils and sediments capable of retaining archaeological materials. All ancient submerged landform features offshore would be avoided to the extent feasible. All such features may not be avoidable, such as on the RWEC where ancient stream channels must be crossed somewhere for the Project to be feasible but it cannot be fully determined in advance if cable burial depth would remain in sediments above the submerged landform. If avoidance is not feasible, ancient submerged landforms would be treated as historic properties and adverse effects to them would be mitigated under NHPA Section 106, as presented in the EIS (see Appendix J). Post-review discovery planning would also be applied should any unanticipated archaeological materials be identified during construction or O&M.

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		BOEM, as the lead federal agency, is obligated to ensure that project proponents who hire cultural resource management (CRM) firms to conduct terrestrial and marine research and survey work include direction to specifically conduct full archaeological surveys for all indications of cultural remains or features. To date, project proponents direct CRMs to specifically look only for surface-level artifacts that could affect the project. As outlined in BOEM Document 2014-005, the focus of avoidance remains in shipwrecks but not Native American cultural sites, toward which the MPTN feels that the current approach is "if we hit some, we'll address it at that time" (hence the need for the unanticipated discovery plan (UDP) (Appendix J in the DEIS)). Because the MPTN believes that the MARA upon which BOEM relies did not specifically consider indigenous-based artifacts and that due diligence for unanticipated discoveries of Native American cultural sites was not completed, the UDP itself is premature. Furthermore, the MPTN believes that Revolution Wind is not qualified to "preserve and protect" undefined Native American cultural resources when affected tribes have not meaningfully participated in the creation of the MARA. BOEM and Ørsted/Eversource provided the MPTN neither opportunities to be aboard the research vessel nor attend meetings in which targets were determined. MPTN was informed only of collected cores and the opportunity to participate in core openings.	
BOEM-2022-0045-0101	22	Recommended Action Items • Conduct all additional archaeological research on geomorphic features recommended by SEARCH. • Provide the methodology for determining the number of vibracore samples that were taken, including the length of the route to shore in nautical miles. • Provide a definition of "cultural resource" as used by SEARCH. Were shipwrecks, indigenous artifacts, and paleolandforms considered cultural resources? • Define the "determined targets" to be avoided before avoidance plans are finalized; the MPTN will accept only mitigation measures that are negotiated, summarized, or conducted before an ROD is issued. Additionally, the MPTN insists that all mitigations are outlined in a separate, MPTN-signed memorandum of agreement (MOA) before the Final Environmental Impact Statement (FEIS) and ROD are issued. • Conduct a new, independently funded marine archaeological analysis as a mitigation measure to address that the original MARA included no complete indigenous survey studies. All affected tribes must be involved with all aspects of data collection, with a specific focus on tribal confirmation of the evidence of indigenous habitation (or a lack thereof) within the lease area and cable corridor routes.	Please note that no additional archaeological research of geomorphic features, onshore or offshore, will be necessary; EIS Appendix C was corrected to reflect this. Please refer to the MARA for information on coring approaching and methods, as referenced in the EIS. Please note that shipwrecks, paleolandforms (ancient submerged landforms), and associated archaeological assemblages were considered cultural resources. As described at EIS Section 3.10, the term cultural resources refers to archaeological sites, buildings, structures, objects, and districts, which may include cultural landscapes and TCPs. The term cultural resources includes resources that may or may not be eligible for the NRHP. BOEM remains in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on the avoidance and mitigation of ancient submerged landforms, which are among the resources identified as potential archaeological sites (magnetometer and sonar targets) in the high-resolution remote sensing survey data. These sites were subsequently further defined as cultural resources following the investigations detailed in the MARA. The MOA is presented as a draft for further input from consulting Tribal Nations and other parties before finalizing or signing. BOEM is open to additional mitigation proposals, such as for added offshore studies, including those further involving the MPTN and other Tribal Nations.
BOEM-2022-0045-0101	25	Figures K-5 through K-12 in DEIS Appendix K (Alternative E) show various WTG layout simulations; however, only Figure K-13 provides a visual for an alternative (Layout Option E2-4) in which the WTGs remain. Appendix K shows no layout option figures with the WTGs removed; the lack of visuals showing alternative layouts provides DEIS reviewers no way to determine which alternative may provide the best viewshed. Additionally, Appendix K states that— • The alternatives shown in Figures K-5 through K-12 were simulated and shared with the Wampanoag Tribe of Gay Head (Aquinnah), with no specific response provided. • Per BOEM's subject matter experts, Options E1-3 (Figure K-7) and E2-4 (Figure K-12) will most effectively reduce "visual impacts of concern at or near the Gay Head Cliffs, as well as other national historic landmarks and culturally important resources in Rhode Island and Massachusetts." Why these simulations were not shared with other cooperating Native American tribes for review and feedback is unclear to the MPTN.	The Wampanoag Tribe of Gay Head (Aquinnah) proposed reduction of WTG proximity to the Martha's Vineyard area. BOEM considered multiple alternative layouts and simulations of WTGs to help develop a feasible alternative to address these concerns and shared early renditions with the Aquinnah. BOEM did not include information in the EIS that was not carried forward from scoping. BOEM can provide those simulations to the MPTN and other consulting Tribal Nations. Visual simulations for all alternatives analyzed in detail in the EIS are posted on BOEM's website for the Project at the Visual Simulation tab here: https://www.boem.gov/renewable-energy/state-activities/revolution-wind.
BOEM-2022-0045-0101	26	Cumulative Historic Resources Visual Effects Analysis (CHRVEA) The Project CHRVEA "assesses the contribution of the Revolution Wind Farm (RWF) and Revolution Wind Export Cable Project (the Project) to cumulative visual effects on historic properties as defined at 36 CFR 800.16(l) and inclusive of National Historic Landmarks (NHLs) as defined at 36 CFR 800.16(p)." Section 2.1.1—Native American Sites, Buildings, Districts, and Traditional Cultural Properties—states the following: Due to the importance of views toward the water, as well as the visual character of the landscape and seascape that	Please note that the proposed mitigation measures for addressing visual adverse effects to TCPs, presented in the HPTPs attached to the draft MOA (EIS Appendix J), are consistent with the scale, nature, and range of those approved by BOEM for other offshore wind development projects in vicinity, including the Vineyard Wind I and South Fork Wind Farm, through the NHPA Section 106 consultation process. The mitigation drafted for TCPs in the MOA includes a GIS database of contributing resources, development of interpretative

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		contribute to the significance of some previously identified archaeological sites and TCPs, the introduction of modern, man-made vertical elements such as turbines could become focal points and have an adverse effect on the integrity of setting that directly contribute to the significance of these properties located within the [viewshed] APE. With respect to the three [Tribally documented and] identified TCPs within the [viewshed] APE, the assessment suggests [visual adverse effects] to the Nantucket Sound TCP is unlikely. The visibility of the offshore facilities is substantially attenuated by distance from the property and terrestrial viewpoints located within or along its boundaries. Section 2.1.1 further states the following: The Project does, however, have the potential to cause [visual adverse effects] to the Vineyard Sound and Moshup's Bridge and the Chappaquiddick Island TCPs: • The turbines will be visible along the horizon from several points within the Vineyard Sound and Moshup's Bridge TCP, including those at or near the Aquinnah Overlook location identified by the Wampanoag Tribe of Gay Head (Aquinnah) as particularly sensitive. The turbines and [OSS] will be visible along portions of the ocean horizon when viewed from the Overlook and may become focal points during sunset conditions. As noted above, under common daytime viewing conditions, the distance from the nearest turbines and atmospheric conditions would reduce the visual contrast of the offshore facilities against the water and sky. However, the introduction of new manmade visual elements to a largely unobstructed view of the setting sun from Aquinnah Overlook, when visual contrast is high, may diminish the TCP's integrity of setting and feeling. Although expected to be less obtrusive when viewed from Peaked Hill, the turbines may be clearly visible to observers at sunset or during other high contrast conditions. Table 1 of the CHRVEA lists the distances from various aboveground historic properties to the nearest RWF WTG—the Moshup's Bridge TCP and Gay Head are 6 and 13.7 miles from the nearest WTG, respectively. According to Table 2 of the CHRVEA, a total of 1,060 WTGs/OSSs from all proposed projects are theoretically visible from the Moshup's Bridge TCP—even though RWF structures comprise only 9.6 percent of the total. All 102 RWF WTGs are visible from Moshup's Bridge and Gay Head (Aquinnah); these structures are the closest with the greatest impact. Regarding lighting, Section 3.1.5 of the CHRVEA states the following: • At Aquinnah Overlook at night, the HRVEA notes that flashing red aviation warning lights would be visible higher upon WTGs but that flashing amber USCG warning lights around WTG foundations would have a greater visual prominence due to their lighter coloring against the black sky and ocean. The addition of warning lights on the WTGs would increase visual clutter at the horizon. Also, the number and mass of lights would diminish the sense of openness (EDR 2022a). • USCG navigation warning lights (yellow or amber) would be obscured by the curvature of the earth beyond approximately 16 miles (30 km) from vantage points along the shoreline at approximately sea level. (Epsilon Associates, Inc. 2020) The MPTN does not agree that the applicant-proposed mitigation measures in the Project draft MOA—as part of the DEIS—are appropriate to fully address the nature, scope, size, and magnitude of adverse visual effects by the project to the Moshup's Bridge TCP and Gay Head.	materials, climate adaptation planning study, support for improved tribal connections to Nomans Land Island, scholarships and training for tribal resource stewardship, and coastal resilience and habitat restoration. All of these measures take into account information BOEM has received from Tribal Nations in consultation on the past and current projects. BOEM will continue consulting with federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to historic properties, including TCPs and ancient submerged landforms. Through consultation, BOEM will work to adapt and finalize the resolution of adverse effects in revision of the MOA and its attached HPTPs (see EIS Appendix J).
BOEM-2022-0045-0101	28	Recommended Action Items • Provide visual renderings of impacts to TCPs that include the following: o WTGs from anticipated future projects (i.e., worst-case scenario) if those previously provided do not already do so. o WTG layouts for each identified alternative. o WTG nacelle movement caused by wind from all directions.	Please note that the simulations appended to the CHRVEA include visualizations of full possible build out of visible lease areas for all known future wind farms from areas within Project TCPs. Layouts of each identified alternative are presented in EIS Section 2.1, by alternative. The still images of simulations in the VIA, HRVEA, and CHRVEA generally provide views toward different positioning of WTG nacelles, most often intending to display the worst-case scenario for blade visibility. In response to comments, BOEM directed Revolution Wind to produce further simulations that include some cumulative views. The new simulations have multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf

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BOEM-2022-0045-0101	29	Tribal Monitors in Marine Environments MP-THPO Comments and Concerns • Tribal monitoring in a marine environment is another unresolved concern. Without it, how will tribes be assured that any negotiated mitigation or avoidance measures will be executed or complied with? Coordination challenges or the inexperience of tribes in the cable laying process should not be used as justification for not allowing tribal monitoring offshore; provisions must be made to ensure compliance. • How do we know that artifacts will not be destroyed by bringing cables to shore? Research and Document Review Summary Regarding the impacts of new cable emplacement and maintenance, Section 3.10.2.3.1 of the DEIS states the following: The impacts from new cable emplacement and maintenance for the Proposed Action would not introduce greater impacts to terrestrial resources over the No Action Alternative in the terrestrial APE. The cable landing envelope use and the crossing of the historic Quonset Point Naval Air Station would produce negligible negative long-term impacts. The route selected for the onshore transmission cable is located within existing rights-of-way (ROWs) and would minimize impacts to, or avoid, potential terrestrial cultural resources, to the extent practicable. Additionally, the onshore transmission cable route has been substantially altered by development, demolition, remediation, and associated grading activities postdating 1941. Also, BOEM would require a post-review discovery plan that would include stop-work and notification procedures to be followed if a terrestrial cultural resource is encountered during cable emplacement or maintenance. This plan would serve to reduce the level of impact to previously undiscovered, NRHP-eligible terrestrial cultural resources to long term moderate negative or lower (minor or negligible). Therefore, the risk of potentially encountering undisturbed archaeological deposits is minimized in these areas, and the resultant impact to terrestrial cultural resources would be long term negligible to minor negative. The MPTN believes that Section 3.10.2.3.1 addresses only terrestrial impacts associated with the landing envelope but not those associated with the marine cable corridor route. Additionally, BOEM derives its authority over the ROWs from the Outer Continental Shelf Lands Act (OCSLA), which is silent regarding tribal rights to the Outer Continental Shelf (OCS). Because the MPTN has not relinquished its rights to the OCS or any state waterways, it does not recognize any previously and/or privately established ROW in those areas. Furthermore, the MPTN does not concur with BOEM's conclusion that the chosen onshore transmission cable route would "minimize impacts to, or avoid, potential terrestrial cultural resources." Attachment 28 in Appendix J of the DEIS outlines procedures "guiding the unanticipated discovery of cultural resources and human remains" for construction activities for the onshore portion of the APE, which were formulated in conjunction with federally recognized Native American tribes. Among these provisions are a commitment by Revolution Wind to provide MP-THPO the opportunity to have monitors onsite during archaeological and construction activities. The MPTN, however, asserts that it never participated in any such discussions. Attachment 29 of the DEIS (Appendix J), which addresses such procedures for construction activities in offshore areas of the preliminary APE (PAPE), directs only that MP-THPO be notified of the discovery of an unanticipated submerged cultural resources—no provision for an onsite tribal monitor is included. The MPTN believes it is the foremost expert on ancient artifact identification. Although all phases of the MARA were "designed, directed, and managed by professional cultural resource specialists who meet the Secretary of the Interior's 'Standards and Guidelines for Archeology and Historic Preservation,'" no MPTN members were consulted. As previously noted in this letter, the MPTN— • Insists that all marine archaeological surveys be conducted before the issuance of the FEIS and ROD. • Believes that the UDP was prepared prematurely and should be issued only after all surveys have been completed to the satisfaction of all consulting parties. Additionally, the MPTN questions why a remotely operated vehicle (ROV) is not referenced as having been used in the survey work leading to the establishment of the MARA, as outlined in Appendix J of the DEIS. To the best of our knowledge, ROVs were used only in situations falling under the UDP. Recommended Action Items • In conjunction with the THPO of each federally recognized tribe, develop provisions to allow a monitor on site at all offshore construction and archaeological sites, as is the case for terrestrial sites. • Provide documentation of MPTN participation in discussions regarding unanticipated discoveries. In the absence of such documentation, revise the FEIS as appropriate.	Regarding tribal monitoring in a marine environment being an unresolved concern for the MPTN, BOEM provides the following response. On all matters discussed, BOEM respects the rights of Tribal Nations and is consulting in good faith with the MPTN and other sovereign Tribal Nations, including in accordance with EO 13175 and the 2018 BOEM Tribal Consultation Guidance; see EIS Appendix A. BOEM will continue to consult with the MPTN and other consulting Tribal Nations, including on the construction and monitoring of offshore Project facilities, and to document its ongoing consultation. This will include further government-to-government consultation meetings and consultation on the draft MOA and post-review discovery plans (UDPs) attached to the draft MOA prior to finalization of those documents. BOEM looks forward to receiving continued input from our tribal partners. BOEM has added an Acknowledgement of the Special Expertise of Tribal Nations statement to the MOA (EIS Appendix J). BOEM recognizes that all tribal participants and knowledge need not conform to Secretary of the Interior standards and acknowledges that Tribal Nations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to Tribal Nations, pursuant to 36 CFR 800.4(c)(1). Regarding the potential for artifact destruction on the export cable route, BOEM provides the following response. For all offshore archaeological investigations, as presented in the MARA, BOEM analyzed the results of geophysical and remote sensing techniques (e.g., side-scan sonar, multi-beam echo profiler, magnetometer, and sub-bottom profiler), which were used to identify not only the locations of possible historic shipwrecks but also ancient submerged landforms that potentially retain archaeological assemblages associated with Native American heritage. The identification of potential archaeological sites at the cable route landfall locations included standard terrestrial archaeology techniques and followed BOEM guidelines. Identification of soil and sediment deposits onshore and offshore guided the placement, number, and depth of subsurface probes (vibracores offshore and shovel tests onshore) used to confirm the presence or absence of soils and sediments capable of retaining archaeological materials. All ancient submerged landform remnants are planned for avoidance. However, all such features may not be avoidable, such as on the RWEC where ancient stream channels must be crossed somewhere for the Project to be feasible but it cannot be fully determined in advance if cable burial depth would remain in sediments above the submerged landform. If avoidance is not feasible, ancient submerged landforms would be treated as historic properties and adverse effects to them would be mitigated under NHPA Section 106, as presented in the EIS (see Appendix J).. Post-review discovery planning would also be applied should any unanticipated archaeological materials be identified during construction or O&M. Regarding research and document review summary, BOEM provides the following response. BOEM's reasonable and good faith efforts to identify historic properties have been undertaken in accordance with 36 CFR 800.4. All surveys for the identification and evaluation of marine archaeological resources have been completed. For all offshore archaeological investigations, as presented in the MARA, geophysical and remote sensing techniques (e.g., side-scan sonar, multi-beam echo profiler, magnetometer, and sub-bottom profiler) were used to identify not only the locations of possible historic shipwrecks but also ancient submerged landforms that potentially retain archaeological assemblages associated with Native American heritage. Coupled with the application of these state-of-the-art technologies to the surveys, BOEM took into account past planning, research, and studies; the magnitude and nature of the Project undertaking and degree of federal involvement; the nature and extent of potential effects on historic properties; and the likely nature and location of historic resources within the APE. Post-review discovery planning would be applied should any unanticipated archaeological materials be identified

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		• Consider the THPO or a designee as a professional cultural resource specialist who should be involved in the design, direction, and management of all phases of work along with Register of Professional Archaeologists (RPA)-registered archaeologists.	during construction or O&M. Finally, please note that no additional archaeological research of geomorphic features, onshore or offshore, would be necessary; EIS Appendix C was corrected to reflect this. Regarding the UDPs and ROV use, BOEM provides the following response. On all matters discussed, BOEM respects the rights of Tribal Nations and is consulting in good faith with the MPTN and other sovereign Tribal Nations, including in accordance with EO 13175 and the 2018 BOEM Tribal Consultation Guidance; see EIS Appendix A. The MOA and UDP were ordered for finalization and implementation by BOEM subsequent to the identification efforts and Finding for the Project. BOEM will continue consulting with the MPTN and other consulting Tribal Nations regarding their interests in the Project prior to the execution of that MOA, including input on the post-review discovery plans attached to the draft MOA. As stated in prior comments, BOEM is meeting its reasonable and good faith efforts to identify historic properties in accordance with 36 CFR 800.4. A submersible ROV was not required for identification of offshore marine cultural resources to accomplish these efforts. A ROV could be useful to assess post-review discoveries and impacts on offshore marine cultural resources, should underwater visibility or other conditions make the situation infeasible for human divers to inspect a specific discovery or impact location. Regarding the recommended actions, on all matters discussed, BOEM respects the rights of Tribal Nations and is consulting in good faith with the MPTN and other sovereign Tribal Nations, including in accordance with EO 13175 and the 2018 BOEM Tribal Consultation Guidance; see EIS Appendix A. BOEM will continue to consult with the MPTN and other consulting Tribal Nations regarding their interests on the Project, including taking into account those interests and Tribal Nation's input on the post-review discovery plans (UDPs) attached to the draft MOA, prior to execution of the MOA. EIS Appendix A has been revised to reflect the MPTN's comments on their participation in consultation. BOEM has added an Acknowledgement of the Special Expertise of Tribal Nations statement to the MOA (EIS Appendix J). BOEM recognizes that all tribal participants and knowledge need not conform to Secretary of the Interior standards, acknowledging that Tribal Nations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to Tribal Nations, pursuant to 36 CFR 800.4(c)(1). Summary BOEM is applying the EIS documentation, and supporting documentation referenced in the EIS, in BOEM's reasonable and good faith efforts to identify historic properties, in accordance with 36 CFR 800.4. State-of-the-art technology was used in the surveys, as described in the MARA, following BOEM guidelines. Coupled with the application of this technology, BOEM took into account past planning, research and studies, the magnitude and nature of the Project undertaking and the degree of federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. BOEM has produced the Finding (see EIS Appendix J) for BOEM's determination of adverse effects pursuant to the undertaking. BOEM is applying the criteria of adverse effect from 36 CFR 800.5 et seq. and applying the special requirements for minimizing harm to NHLs at 36 CFR 800.10 and for Section 110(f) compliance. BOEM remains in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106. For all offshore archaeological investigations, as presented in the MARA, BOEM analyzed geophysical and remote sensing techniques (e.g., side-scan sonar, multi-beam echo profiler, magnetometer, and sub-bottom profiler) to identify not only the locations of

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			possible historic shipwrecks but also ancient submerged landforms that potentially retain archaeological assemblages associated with Native American heritage. The identification of potential archaeological sites at the cable route landfall locations included standard terrestrial archaeology techniques, following BOEM guidelines. Identification of soil and sediment deposits onshore and offshore guided the placement, number, and depth of subsurface probes (vibracores offshore and shovel tests onshore) used to confirm the presence or absence of soils and sediments capable of retaining archaeological materials. All ancient submerged landform remnants offshore are planned for avoidance. However, all such features may not be avoidable, such as on the RWEC where ancient stream channels must be crossed somewhere for the Project to be feasible but it cannot be fully determined in advance if cable burial depth would remain in sediments above the submerged landform. If avoidance is not feasible, ancient submerged landforms would be treated as historic properties and adverse effects to them would be mitigated under NHPA Section 106, as presented in the EIS (see Appendix J). Post-review discovery planning would also be applied should any unanticipated archaeological materials be identified during construction or O&M. Please note that no additional archaeological research of geomorphic features, onshore or offshore, will be necessary; EIS Appendix C was corrected to reflect this. On all matters discussed, BOEM respects the rights of Tribal Nations and is consulting in good faith with the MPTN and other sovereign Tribal Nations, including in accordance with EO 13175 and the 2018 BOEM Tribal Consultation Guidance; see EIS Appendix A. BOEM will continue to consult with the MPTN and other consulting Tribal Nations regarding their interests on the Project, including taking into account those interests and Tribal Nation's input on the post-review discovery plans (UDPs) attached to the draft MOA, prior to execution of the MOA. BOEM has added an Acknowledgement of the Special Expertise of Tribal Nations statement to the MOA (EIS Appendix J). BOEM recognizes that all tribal participants and knowledge need not conform to Secretary of the Interior standards, acknowledging that Tribal Nations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to Tribal Nations, pursuant to 36 CFR 800.4(c)(1). All surveys for the identification and evaluation of cultural resources are complete. For NEPA substitution, the MOA and UDP were ordered for finalization and implementation by BOEM subsequent to the identification efforts and Finding on the Project; however, the draft MOA and its attached UDPs were included in the Draft EIS to provide the opportunity for the public to review these documents. BOEM provided consulting parties under Section 106 the opportunity to review the draft MOA and UDP prior to their public release. Also as stated by BOEM above, BOEM is meeting its reasonable and good faith efforts to identify historic properties in accordance with 36 CFR 800.4. A submersible ROV was not required for identification of offshore marine cultural resources to accomplish these efforts. A ROV could be useful to assess post-review discoveries and impacts at offshore marine cultural resources, should underwater visibility or other conditions make the situation unfeasible for human divers to inspect a specific discovery or impact location. BOEM will continue to consult with the MPTN and the consulting Tribal Nations on the Project, including on the construction and monitoring of offshore Project facilities, and continue to document its ongoing consultation. This will also include further government-to-government consultation meetings and consultation on the MOA, which will be implemented to resolve adverse effects to historic resources (both onshore and offshore). This ongoing consultation will provide the MPTN and the consulting Tribal Nations the opportunity to participate in all aspects of BOEM's Project review, including design review as detailed in the COP and the review and setting of conditions for COP approval, such as

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			carried forward in the MOA. BOEM looks forward to receiving continued input from our tribal partners.
BOEM-2022-0045-0101	30	MP-THPO Comments and Concerns • When you put all these projects together it's overwhelming and there are still questions not answered. Additionally, the MPTN is concerned that BOEM is reaching conclusions regarding project impacts before the EIS review is complete. For example, BOEM released a draft memorandum of agreement on September 27th long before the DEIS has been completed. Said MOA was actually drafted as early as August 1st of 2022. Even on the date of this submittal of MPTN's comments on the RWF & RWEC (October 17th, 2022) the EIS for this project is still in draft form. Yet the opening language in the draft MOA states: "WHEREAS, the Bureau of Ocean Energy Management (BOEM) plans to authorize construction and operation of the Revolution Wind Farm and Revolution Wind Export Cable Project (Project)…" MPTN fails to understand how the BOEM EIS review process is fair to our tribal nation and its concern or its ancestral TCP's when BOEM drafting MOA's so early into the EIS review process.	The EIS considers the environmental impacts of the Project and makes the bases of BOEM's environmental assessment available for public review prior to reaching a decision, as would be documented by BOEM under a ROD. The Final EIS will take into account the comments received on the Draft EIS regarding Project impacts. On March 8, 2022, BOEM provided to the MPTN and other consulting parties notification that the MOA development was added by BOEM to the consultation schedule and that an MOA would be completed prior to the issuance of the ROD. Distribution of this schedule was to inform discussion of the steps and timing of Project review and of the MOA at the NHPA Section 106 consultation meeting on April 8, 2022. In the schedule provided to consulting parties on March 8, 2022, BOEM further specified that the first draft MOA would be provided to consulting parties by the time of Draft EIS release on September 2, 2022, and that a series of scheduled redrafts and reviews of the MOA would occur in consultation following Draft EIS release and prior to the ROD. Accordingly, BOEM released the draft MOA to the consulting parties under NHPA Section 106 on August 1, 2022, to provide these parties and consulting Tribal Nations an extended time period to consider the identification; assessment of effects; and avoidance, minimization, and mitigation of adverse effects. BOEM began this consulting party review period prior to the release of the Draft EIS on September 2, 2022; in advance of the NHPA Section 106 meeting on these matters on September 27, 2022; and extending over the Draft EIS public comment period between September 2 and October 17, 2022. BOEM extended the review period for NHPA Section 106 consulting parties on the first draft of the MOA to October 31, 2022 (totaling 90 days), and continued to consult on revision of the MOA for inclusion in the Final EIS and for final MOA execution prior to issuance of a ROD. The regulations for NHPA Section 106 Coordination with the National Environmental Policy Act require at 36 CFR 800.8(c)(1)(v) that BOEM develop, in consultation with identified consulting parties, alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the Draft EIS. Under 36 CFR 800.8(c), for NEPA substitution, BOEM is required at the Draft EIS stage to identify and describe the proposed measures to resolve any adverse effects to historic properties. These measures also were included in the Draft EIS to provide the opportunity for public review. BOEM provided consulting parties under Section 106 the opportunity to review the draft MOA prior to their public release. The draft MOA in Draft EIS Appendix J is among the documentation in the Draft EIS that describes the measures for treating adverse effects to historic properties. BOEM proceeded with the development of these draft measures in consultation with the NHPA Section 106 consulting parties on the Project before issuance of the Draft EIS, requested Tribes input and comments on these proposed mitigation measures during government-to-government consultation meetings with consulting Tribes on January 24 and February 3, 2023, and looks forward to receiving further input on the MOA from our tribal partners.
BOEM-2022-0045-0101	31	• The MPTN does not concur that the applicant-proposed mitigation measures in the DEIS are appropriate to fully address the nature, scope, size, and magnitude of potential adverse effects caused by the Project—including cumulative effects on ASLs, terrestrial archaeological historic properties, and TCPs. These mitigation measures were developed without input or collaboration from the MPTN as a consulting party under National Historic Preservation Act (NHPA) Section 106.	BOEM will continue consulting with the MPTN and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore. This includes holding further government-to-government consultation meetings with Tribal Nations and considering all proposed mitigation measures in consultation on the MOA, which would be implemented to resolve adverse effects to historic properties. BOEM looks forward to receiving additional input on the mitigation measures from our tribal partners.

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BOEM-2022-0045-0101	32	Research and Document Review Summary Appendix A of the DEIS—Required Environmental Permits and Consultations—states that on 9 April 2021, BOEM held a government-to-government consultation meeting with representatives from several area tribes, including the MPTN. Most of the meeting focused on topics and issues applicable to all proposed offshore wind projects off the coast of New England, including the Project. During the meeting, representatives from the tribes voiced concerns about potential Projectbased and cumulative impacts to water quality; marine mammals; coastal habitats; benthic communities; culturally, economically, and historically significant fisheries and shellfish populations; chemical pollutants; the financial and time burden on tribes of participating in multiple, simultaneous offshore wind project reviews; visual impacts on TCPs; and preserving the marine and terrestrial environments for future generations, particularly the current and future ability of tribal youth to perform sacred ceremonies and have safe havens for traditional cultural practices in the future. Additionally, tribal representatives requested that BOEM consult with federally recognized tribes on all proposed wind projects as a single federal action instead of on a project-by-project basis. The MPTN, however, has no record of its participation in the 9 April 2021 meeting. The following are the only government-to-government meetings with BOEM for which MP-THPO has records documenting its participation: • A visual impact assessment on 12 January 2020. • Environmental justice meetings on 5 May and 23 June 2021. • A meeting for scoping comments and review alternatives on 24 June 2021. • A cooperating agency review on 21 July 2021.	BOEM has updated EIS Appendix A's Government-to-Government Consultation with Federally Recognized Indian Tribes section based on this comment from the MPTN.
BOEM-2022-0045-0101	34	• Produce visual renderings of impacts to TCPs that include WTGs from anticipated future projects (e.g., worst-case scenario) if those previously provided do not already do so.	The CHRVEA analyzes the cumulative visual effects (for both daytime and nighttime) on historic resources for past, present, and reasonably foreseeable offshore wind energy development activities. This provides a maximum-case scenario for WTG presence. The assessment includes TCPs that span Elizabeth Islands, Martha's Vineyard, and Nomans Land Island. Cumulative visual simulations are included in Appendix C of the CHRVEA and on BOEM's website and include Cuttyhunk Island, Aquinnah Overlook, Peaked Hill, Wasque Point, Nomans Land Island, and Madaket Beach. These simulations provide sunset and nighttime perspectives as well as daytime viewing conditions. The HRVEA includes visual simulations from a number of KOPs, including Aquinnah Overlook (MV 07), South Beach (MV 10), and Peaked Hill (MV 12), which were selected to best represent views from, and the visual setting of, TCPs. These also provide various viewing conditions. All visual simulations are posted on BOEM's website for the Project at the Visual Simulations tab here: https://www.boem.gov/renewable-energy/state-activities/revolution-wind. In response to comments, BOEM directed Revolution Wind to produce further simulations that include some cumulative views. The new simulations have multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf
BOEM-2022-0045-0101	38	• Ensure that the FEIS accurately reflects MPTN participation in government-to-government meetings.	BOEM has updated Appendix A of the EIS to reflect the information the MPTN has provided to BOEM regarding its participation in government-to-government meetings and has updated Appendix A to include additional BOEM meetings with Tribal Nations held between release of the Draft and Final EIS. BOEM has included notes on other meetings in Appendix A from government to government meetings, beyond solely the Revolution Wind

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			Project, taking into account broader concerns of Tribal Nations related to all BOEM offshore wind energy development in the region.
BOEM-2022-0045-0101	39	• Meet with all consulting tribes (along with Ørsted/Eversource) to revise the proposed mitigation measures and develop new, more equitable mitigation measures.	BOEM conducted government-to-government meetings on January 24 and February 3, 2023, with the MWT and other Tribal Nations. BOEM will continue to schedule government-to-government meetings with the Tribal Nations throughout the remainder of Section 106 consultation and as requested. BOEM remains in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on the avoidance, minimization, and mitigation measures that would be included in a final MOA.
BOEM-2022-0045-0101	40	MP-THPO Comments and Concerns Our tribe name keeps getting omitted; the MPTN should appear as a consulting party and finds this omission from the Project DEIS to be disrespectful. Research and Document Review Summary Attachment 28 in Appendix J of the DEIS, which addresses unanticipated discovery of cultural resources and human remains, states the following regarding consulting parties: Under the ACHP's regulations, "descendants" are not identified as consulting parties by right. However, federal agencies shall consult with Indian tribes and Native Hawaiian organizations that attach religious and cultural significance to burial sites, human remains and associated funerary objects, and be cognizant of their expertise in, and religious and cultural connection to, them. In addition, federal agencies should recognize a biological or cultural relationship and invite that individual or community to be a consulting party [36 CFR § 800.3(f)(3)]. Federal agencies also must comply with President Biden's memorandum to the heads of executive departments and federal agencies on January26, 2021 regarding tribal consultation and strengthening Nation to Nation Relationships. The president's memorandum realigns the efforts of federal agencies to engage directly with federally recognized tribes in consultation to Executive Order 13175 of November 6, 2000 (Consultation and Coordination With Indian Tribal Governments). The MPTN, however, still seeks clarification regarding what constitutes a consulting party versus a cooperating party or agency, and about how much information it would receive according to each term. Additionally, the MPTN would like the difference between a cooperating agency and a "task force," both of which seem to comprise the same participants, clarified.	BOEM has recognized the MPTN as a consulting party and accepted the MPTN's participation 1) on the Project, 2) in government-to-government consultation, 3) in consultation under NHPA Section 106, and 4) in cooperating on the EIS under the NEPA regulations at 40 CFR 1501.8.. In letters dated April 2021, BOEM invited MPTN to consult on the Project under NHPA Section 106 and in cooperation under NEPA. A cooperating agency is a governmental role under the NEPA process, as described in CEQ's regulations and is specific to the NEPA review of a project. A BOEM Task Force is a partnership between federal, state, and local agencies and tribal governments tasked with coordinating renewable energy planning activities on the OCS prior to lease issuance.
BOEM-2022-0045-0101	41	• Acknowledge the MPTN as a consulting party in all finalized documents for the Project—including the FEIS—in accordance with 36 CFR § 800.3(f)(3), and ensure that MP-THPO has all Project information to which a consulting party is entitled.	NHPA Section 106 documents (Finding and MOA [see EIS Appendix J]) acknowledge MPTN as a consulting party on the Project, and these acknowledgments will be carried through the Final EIS. BOEM has made all Project consultation information and documents available to MP-THPO from the initiation of the consultation process immediately prior to BOEM's release of the NOI in April 2021. BOEM has communicated to MP-THPO variously in letters, emails, and meetings when information and documents were made available. BOEM will continue to share information with MPTN and also looks forward to receiving continued input from our tribal partners.
BOEM-2022-0045-0101	42	MP-THPO Comments and Concerns These wind farm decisions will impact all tribal communities, and we need to solve the questions we have before it gets carried across the country. Research and Document Review Summary Appendix A of the DEIS—Required Environmental Permits and Consultations—mentions several consultations between BOEM and numerous area tribes, including the MPTN, between August 2018 and February 2022. Topics discussed included overall procedural/process issues, possible effects of all current and proposed projects on marine mammals and other marine life as well as on the Nantucket Sound TCP, the importance of open-sea views to the east during sunrise, and the tribes' long historical association with the sea. The DEIS does not fully describe how BOEM intends to address each issue. Recommended Action Items Fully address each issue raised during the various government-to-government consultations as listed in Appendix A of the	BOEM addresses the Project background, purpose and need for the Proposed Action, regulatory framework, relevant existing NEPA and consulting documents, methodology for assessing the PDE, and methodology for assessing impacts from planned actions in the EIS Introduction, Section 1. The possible effects of all current and proposed projects on mammals and other marine life are addressed in EIS Section 3.6, Benthic Habitat and Invertebrates; Section 3.9, Commercial Fisheries and For-hire Recreational Fisheries; Section 3.13, Finfish and Essential Fish Habitat; Section 3.15, Marine Mammals; and Section 3.19, Sea Turtles. The Nantucket Sound TCP is addressed in Section 3.10, Cultural Resources, and introduced under Subsection 3.10.1.3, Viewshed Resources. The importance of seaward views to TCPs and other historic resources is particularly addressed in EIS Section 3.10, Cultural Resources, as well as in Section 3.20, Visual Resources. In particular, EIS Section 3.20,

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		DEIS, then document those resolutions in the FEIS (the MPTN's disagreement with the presentation in Appendix A of our participation in those consultations notwithstanding).	Visual Resources, addresses atmospheric and environmental factors such as haze, sun angle, time of day, cloud cover, fog, sea spray, and wave action. Three-dimensional renderings of the Project superimposed on video footage depict sunrise, daytime, sunset, and nighttime views and were provided to consulting parties at NHPA Section 106 meetings on April 8 and September 27, 2022, as well as being publicly available on BOEM's website for the Project under the Visual Simulations tab at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. Eastward views toward the Project are specifically available from the North Light Video, linked on BOEM's website under the Visual Simulations tab or on Vimeo at https://vimeo.com/380256305/3c98b1d920. Tribal Nations' long historical association with the land and seas in the region and at the Project are discussed in the Finding (EIS Appendix J). Other issues related to Tribal Nations and communities are addressed in EIS Section 3.12, Environmental Justice. Further issues noted in government-to-government consultation in EIS Appendix A are considered in mitigation measures for TCPs proposed in the draft MOA and the MOA's attached draft HPTP for ancient submerged landforms (see EIS Appendix J), including for support of youth education. BOEM will continue to consult with the MPTN and other Tribal Nations on mitigation measures planned in the MOA, including on proposed measures to better support Tribal Nations' staff, time, and funding resources in Project participation. BOEM has addressed the MPTN's disagreement with the presentation in EIS Appendix A of their participation through revision of the Appendix A text.
BOEM-2022-0045-0102	1	The Mashpee Wampanoag Tribe (MWT) Tribal Historic Preservation Office (MWT THPO) submits its direct response to the DEIS for the RWF/RWEC project (the Project), the proposed location of which is in federal waters approximately 18 miles southeast of Point Judith, Rhode Island, and approximately 15 miles east of Block Island, Rhode Island. This area is covered by BOEM Renewable Energy Lease Number OCS-A 0486. For offshore wind energy projects, the MWT THPO acts on behalf of the MWT in matters pertaining to historic preservation and ocean management. The MWT is generally not in opposition to the creation and use of alternative forms of energy; however, we have concerns regarding numerous aspects of various wind energy projects to be installed in areas that are culturally sensitive to the MWT, including RWF/RWEC. The MWT cares about the effects of the Project on submerged tribal cultural properties (TCPs) we know to exist, as depicted in our oral and written stories and traditions. These include village and burial sites and ancient landscapes. We also monitor the potential effects such projects may have on marine life important to sustaining species important to our people such as cod, haddock, lobster, quahog, scallop, oysters, soft shell clams and other coastal fisheries the tribe relies on for substance. Furthermore, the endangered North Atlantic right whale (NARW)— among other marine mammal species—holds deep cultural and spiritual significance to the MWT. We are thus heavily invested in ensuring their well-being and ensuring that Project construction, installation, operations and maintenance (O&M), and decommissioning activities avoid further harm to the NARW and other culturally significant beings.	BOEM will continue consulting with the MWT and the federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore, including TCPs (with villages, burials, and ancient landscapes) and on the cultural connections to the environment, including the NARW and other marine mammals and wildlife. BOEM will continue involving the MWT and other federally recognized Tribal Nations on the EIS, providing information and opportunities to participate in review of ocean management concerns, including for marine fisheries (vertebrate and invertebrate). BOEM will also continue to hold government-to-government meetings to discuss tribal concerns.
BOEM-2022-0045-0102	2	MWT THPO Comments and Concerns · The tribe has reverence for whales, specifically the NARW, and are culturally obligated to protect them	BOEM acknowledges MWT's reverence for the NARW and has given careful consideration to the potential impacts to NARWs throughout development of the EIS, focused within EIS Section 3.15, Marine Mammals. BOEM is also consulting with NMFS under the ESA and would require compliance with all mitigation and reporting measures in the NMFS biological opinion if the COP were approved or approved with modification.
BOEM-2022-0045-0102	21	It is imperative to us that paleolandscapes be avoided completely. We are dissatisfied with "avoid where possible" language. Research and Document Review Summary Table F-1 in Appendix F of the DEIS states, "the RWF and RWEC will be sited to avoid or minimize impacts to potential submerged cultural sites and paleolandforms, to the extent practicable" (EPM No. CR-7). Recommended Action Item Revise EPM No. CR-7 to read, "The RWF and RWEC will be sited to avoid impacts to potential submerged cultural sites and paleolandforms."	BOEM reviewed and revised "avoid where possible" language in the EIS documents where this occurs, more specifically stating where avoidance would be set for historic properties, including ancient submerged landforms, and where and what mitigation would be required where avoidance cannot be realized.

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BOEM-2022-0045-0102	22	MWT THPO Comments and Concerns · Evidence of tribal presence in area (e.g., in Nantucket and Vineyard Sounds) going back 20,000 or so years exists despite having been submerged and experienced turbidity, storm surges, etc. (These areas also provide scientific clues to help deal with current climate change.) Will this project disrupt those artifacts? · The technology to perform adequate archeological surveys of shoreline and marine areas does not exist.	BOEM is applying the EIS documentation, and supporting documentation referenced in the EIS, in BOEM's reasonable and good faith efforts to identify historic properties in accordance with 36 CFR 800.4. State-of-the-art technology was used in the surveys, as described in the MARA, following BOEM guidelines. Coupled with the application of this technology, BOEM took into account past planning, research and studies, the magnitude and nature of the Project undertaking and the degree of federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. BOEM has produced the Finding (see EIS Appendix J) for BOEM's determination of adverse effects pursuant to the undertaking. BOEM is applying the criteria of adverse effect from 36 CFR 800.5 et seq. and applying the special requirements for minimizing harm to NHLs at 36 CFR 800.10 and for Section 110(f) compliance. BOEM remains in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106. For all offshore archaeological investigations, as presented in the MARA, BOEM analyzed geophysical and remote sensing techniques (e.g., side-scan sonar, multi-beam echo profiler, magnetometer, and sub-bottom profiler) to identify where not only possible historic shipwrecks would be but also ancient submerged landforms able to retain archaeological assemblages associated with Native American heritage. The transition to onshore identification included standard terrestrial archaeology techniques, following BOEM guidelines. Identification of soil and sediment deposits onshore and offshore guided the placement, number, and depth of subsurface probes (vibracores offshore and shovel tests onshore) to confirm the presence or absence of soils and sediments capable of retaining archaeological materials. All ancient submerged landform remnants offshore are planned for avoidance. However, all such features may not be avoidable, such as on the RWEC where ancient stream channels must be crossed somewhere for the Project to be feasible but it cannot be fully determined in advance if cable burial depth would remain in sediments above the submerged landform. If avoidance is not feasible, ancient submerged landforms would be treated as historic properties and adverse effects to them would be mitigated under NHPA Section 106, as presented in the EIS (see Appendix J). Post-review discovery planning would also be applied should any unanticipated archaeological materials be identified during construction or O&M.
BOEM-2022-0045-0102	23	If not already completed, conduct additional research regarding geomorphic features as recommended by SEARCH.	Please note that no additional archaeological research of geomorphic features, onshore or offshore, will be necessary; EIS Appendix C was corrected to reflect this.
BOEM-2022-0045-0102	24	Schedule a government-to-government meeting with the MWT and other interested tribes to further discuss complete avoidance of sensitive areas, as proposed in the 27 September 2022 National Historic Preservation Act (NHPA) Section 106 meeting.	BOEM held a government-to-government meetings January 24 and February 3, 2023, with the MWT and other Tribal Nations. BOEM will continue to schedule government-to-government meetings with the Tribal Nations throughout the remainder of Section 106 consultation and as requested.
BOEM-2022-0045-0102	25	MWT THPO Comments and Concerns Only the tribes can determine the cultural importance of submerged landscapes, yet BOEM issued a draft MOA without tribal approval. The tribes never had the opportunity to respond to this issue. Research and Document Review Summary Not applicable. Recommended Action Item Solicit tribal input regarding the cultural importance of submerged landscapes when compiling the final MOA	BOEM acknowledges the expertise of tribes in determining the cultural importance of submerged landscapes and will continue consulting with the MWT and other Tribal Nations on these resources. The regulations for NHPA Section 106 coordination with NEPA require at 36 CFR 800.8(c)(1)(v) that BOEM develop, in consultation with identified consulting parties, alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the Draft EIS. Under 36 CFR 800.8(c), for NEPA substitution, BOEM is required at the Draft EIS stage to identify and describe the proposed measures to resolve any adverse effects to historic properties. These measures also were included in the Draft EIS to provide the opportunity for public review. BOEM provided consulting parties under Section 106 the opportunity to review the

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			draft MOA prior to its public release. The draft MOA in Draft EIS Appendix J is among the documentation in the Draft EIS that describes the measures for treating adverse effects to historic properties. BOEM proceeded with the development of these draft measures in consultation with the NHPA Section 106 consulting parties on the Project before issuance of the Draft EIS, requested Tribes input and comments on these proposed mitigation measures during government-to-government consultation meetings with consulting Tribes on January 24 and February 3, 2023, and looks forward to receiving further input on the MOA from our tribal partners. BOEM made the first draft MOA available to consulting Tribal Nations and other consulting parties under NHPA Section 106 on August 1, 2022, 30 days in advance of the September 2, 2022, public release of the Draft EIS (which included the draft MOA in Appendix J). This allowed consulting Tribal Nations and other consulting parties an extended period of time totaling 90 days (through October 31, 2022) to review the MOA and other documents under NHPA Section 106. BOEM continued to consult on revision of the MOA for inclusion in the Final EIS and for final MOA execution prior to issuance of a ROD. It should also be noted that on March 8, 2022, BOEM notified the MWT and other consulting parties that MOA development was being added to the consultation schedule and that an MOA would be completed prior to issuance of the ROD. Distribution of the schedule was to inform discussion of the steps and timing of Project review and of the MOA at the NHPA Section 106 consultation meeting held on April 8, 2022. BOEM specified in the schedule provided on March 8, 2022, that the first draft of the MOA would be provided to consulting parties by the Draft EIS release on September 2, 2022, with a series of scheduled redrafts and reviews of the MOA occurring in consultation following Draft EIS release and prior to the issuance of the ROD.
BOEM-2022-0045-0102	26	Tribes have expressed the desire and need for dynamic visual renderings of lease areas in previous wind projects that were never received. The government should have been capable of producing these and must do so going forward.	The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf
BOEM-2022-0045-0102	27	The MWT does not concur that the applicant-proposed mitigation measures in the draft MOA— as part of the DEIS—are appropriate to fully address the nature, scope, size, and magnitude of adverse visual effects by the project to the Moshup's Bridge TCP and Gay Head.	BOEM will continue consulting with the MWT and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore. This includes holding further government-to-government consultation meetings with Tribal Nations and consultation on the proposed mitigation measures in the MOA, which would be implemented to resolve adverse effects to historic resources, including TCPs. BOEM continues to welcome tribal input on mitigation measures for Moshup's Bridge TCP and Gay Head.
BOEM-2022-0045-0102	28	Neither the DEIS nor the COP address visual renderings, nor do they mention a tribal desire or need for them. Ørsted, however, references the use of a three-dimensional (3D) hydrodynamic model simulating circulation patterns near the seabed caused by tidal forcing, wind stress, and water flows throughout the study area. In any case, no evidence in either document exists that the tribes received any dynamic visual renderings.	Please note that the hydrodynamic model was provided in COP Appendix J, which was made publicly available with Draft EIS publication. COP Appendix J was also provided to all of the cooperating agencies, including tribes, for their preliminary review of the Draft EIS and also made available in advance of April consulting party meetings under NHPA Section 106. The document is on BOEM's Project website at https://www.boem.gov/renewable-energy/state-activities/app-j-sediment-transport-modeling-report.
BOEM-2022-0045-0102	29	The MWT was shown BOEM-provided video simulations containing visual impacts from Moshup Beach, Sachuest Point National Wildlife Reserve (NWR), Aquinnah Overlook, and North Light during the BOEM-led Section 106 meeting on 27 September 2022. The MWT is unsure of whether these simulations represent the worst-case scenario.	Please note that the video introduction for each location presents information indicating that each video simulation considers the maximum proposed number and height of WTGs for the Project. The video simulations are available on BOEM's Project website at https://www.boem.gov/renewable-energy/state-activities/revolution-wind.
BOEM-2022-0045-0102	30	Cumulative Visual Impacts Meet with all consulting tribes (along with Revolution Wind, LLC) to revise the proposed mitigation measures and develop new, more equitable mitigation measures.	BOEM will continue consulting with the MWT and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore, including cumulative visual impacts. This includes holding further government-to-government consultation meetings with Tribal Nations.

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			BOEM will continue to consider all proposed mitigation measures during consultation on the MOA, which would be implemented to resolve adverse effects to historic resources.
BOEM-2022-0045-0102	31	Visual Renderings · Ensure that THPOs are provided with all available visual renderings as early in the process as possible. · Provide visual renderings of the aforementioned viewsheds that include the following: o WTGs from anticipated future projects if those previously provided exclude them. o WTG layouts for each identified Project alternative. o WTG nacelle movement caused by wind from all directions.	BOEM has made all Project consultation information and documents available to Tribal Nations starting from the initiation of the consultation process, which was immediately prior to BOEM's release of the NOI in April 2021. BOEM has communicated to the Tribal Nations variously in letters, emails, and meetings as information and documents were made available. This communication has included all available visual renderings, visualizations, or visual simulations. Cumulative visual simulations incorporating reasonably foreseeable future offshore wind energy developments are appended to the CHRVEA and are available at the Visual Simulations tab on BOEM's website for the Project at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. This tab also includes cumulative simulations for each Project alternative analyzed in the EIS. Although the simulations may not include WTG nacelle movement from all directions, the visualizations that support the EIS, and made available with the VIA, HRVEA, CHRVEA, and the NHL Supplementation Documentation for the Project, present a broad range of lighting and atmospheric conditions appropriate to assess the potential visual effects to historic resources located within the Project viewshed. BOEM finds the documentation acceptable and sufficient to enable any reviewing parties to understand the basis of BOEM's determination and findings on the undertaking under NEPA and NHPA Section 106 (per 36 CFR 800.11(a)). In response to comments, BOEM directed Revolution Wind to produce further simulations that include some cumulative views. The new simulations have multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf
BOEM-2022-0045-0102	32	MWT THPO Comments and Concerns The specific, tangible benefits that the MWT will receive to mitigate the adverse effects of this project must be better articulated and codified, especially if the projects will proceed regardless of tribal concerns. Research and Document Review Summary Neither the DEIS nor the COP address benefits that the tribes will receive in exchange for their cooperation with the Project. Recommended Action Items Describe and codify specific benefits the MWT and other tribes will receive to help mitigate all anticipated and actual adverse Project effects.	BOEM will continue consulting with the MWT and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore. This includes holding further government-to-government consultation meetings with Tribal Nations. BOEM will consider all proposed mitigation measures in consultation on the MOA, which would be implemented to resolve adverse effects to historic resources, including those measures that may benefit Tribal Nations.
BOEM-2022-0045-0102	33	MWT THPO Comments and Concerns · Government does not understand that the MWT is not a treaty tribe and thus has retained aboriginal hunting and fishing rights to the area. Because the MWT retained more sovereignty upon receiving federal recognition than other New England tribes and waived no aboriginal rights, a shared jurisdiction approach to the Project should be adopted. The MWT finds it disrespectful that the federal government has not proceeded as such on the Project. · Because of the terms of federal recognition, the MWT is bound by neither state laws nor regulations. International laws, which are applicable to the seas, should be followed in this context. · Under the cooperating agency mechanism, the tribes—including the MWT—should have input regarding scheduling matters and should be included on all correspondence. This is not occurring.	BOEM respects the rights of Tribal Nations and is consulting with the MWT in accordance with EO 13175, Secretarial Order No. 3317, and BOEM's tribal consultation policy (BOEM 2018) (see EIS Appendix A). BOEM will continue to consult with the MWT and other Tribal Nations regarding their interests on the Project. The EIS analyzes the use of the area for fishing see Sections 3.12 Environmental Justice, 3.13 Finfish and Essential Fish Habitat, and 3.18 Recreation and Tourism. BOEM acknowledges that the MWT is "not a treaty tribe."

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			OCSLA gives BOEM the authority to manage the outer continental shelf and it doesn't provide for sharing that authority with tribes. BOEM, as a federal agency, must follow applicable federal laws for management of the outer continental shelf. BOEM invited MWT to participate as a cooperating agency under NEPA in letters sent to MWT in April 2021. BOEM has communicated with Tribal Nations through letters, emails, and meetings as information and documents were made available including on release of schedules and correspondence. BOEM will continue to communicate with Tribes through Government to Government consultations.
BOEM-2022-0045-0102	34	Recommended Action Items · Outline a response to tribal assertions of aboriginal rights and adopt a shared jurisdiction approach to the Project. · Grant the MWT an appropriate agency status that affords it the opportunities to— o Ensure that proper information is considered during the scoping process. o Secure funding that can help relieve the THPO of the burdens created by unfunded mandates for review of offshore renewable energy projects. o Be included on all correspondence and scheduling matters. · Follow international law for all appropriate Project matters.	The Outer Continental Shelf Lands Act gives the Secretary the authority (delegated to BOEM) to manage the Outer Continental Shelf, and it doesn't provide for shared jurisdiction or decision making with tribes, irrespective of any claims of aboriginal rights. BOEM will respond to MWT's assertion of aboriginal rights in Government to Government consultation. BOEM invited MWT to participate as a cooperating agency under NEPA in letters sent to MWT in April 2021. BOEM has communicated with Tribal Nations through letters, emails, and meetings as information and documents were made available including on release of schedules and correspondence. BOEM is working with federally recognized tribes to explore opportunities to assist tribes in document review and build capacity to address tribal coordination as part of offshore wind development. BOEM, as a federal agency, must follow applicable federal laws and procedures, as well as the agency's regulations for management of the outer continental shelf. To the extent that any international laws apply to BOEM's action on the Revolution Wind COP, BOEM's actions are consistent with them.
BOEM-2022-0045-0102	35	· MWT has never made concessions regarding inherent aboriginal title, rights nor interests in the territorial seas and jurisdictional waters of our Tribal Nation; therefor the MWT shall be designated as a cooperating Tribal Government on all lease activities within the adjacent OSW Lease areas	BOEM respects the rights of Tribal Nations and is consulting with the MWT in accordance with EO 13175, Secretarial Order No. 3317, and BOEM's tribal consultation policy (BOEM 2018) (see EIS Appendix A). BOEM will respond to MWT's assertion of aboriginal rights in Government to Government consultation. BOEM invited MWT to participate as a cooperating agency (cooperating tribal government) under NEPA (see 40 CFR 1501.8) in letters sent in April 2021. BOEM has communicated with Tribal Nations through letters, emails, and meetings as information and documents were made available including on release of schedules and correspondence.
BOEM-2022-0045-0102	36	· Projects have a 25 year life cycle and many of the potential impacts are ambiguously discounted, tribes require the internal capacity to monitor and track resulting impacts and further map sensitive areas of concerns within our territorial maritime areas.	BOEM will continue consulting with federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore. This includes consultation on applying tribal monitoring under the measures of the MOA (EIS Appendix J). BOEM would also consider proposed measures under the MOA that directly support the participation and capacity of Tribal Nations, including proposals for staff, time, and funding support.
BOEM-2022-0045-0102	39	· Ensure that all affected stakeholders have adequate time with which to express comments and concerns throughout all project phases, with timeframes clearly defined and agreed upon by affected tribes.	At the onset of the consultation process and immediately before releasing the NOI in April 2021, BOEM made all Project announcements and notifications, including Project timing and dates, available to Tribal Nations. BOEM has communicated to the Tribal Nations variously in letters, emails, and meetings when information and documents were made available, including on the release of schedules and notifications of meeting times.

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			In response to the consulting parties' request following the initial December 17, 2021, consulting party meeting, BOEM polled all consulting parties, including MWT, on meeting dates and normally set all meeting dates to provide at least 30 days advance notice following polling. BOEM has provided more than the usual 30-day review period for most documents consulted on under the NHPA Section 106 process, integrated with the NEPA review, also at the consulting parties' request. On December 13, 2021, BOEM provided the Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates under BOEM's NEPA Substitution Process directly to the MWT and other consulting parties in preparation for the NHPA Section 106 consultation meeting on December 17, 2021; that schedule and the timing of the NEPA and NHPA review on the Project were further reviewed at that meeting and in meeting slides provided to consulting parties. On March 8, 2022, BOEM provided the MWT and other consulting parties with an updated Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates in preparation for discussion of the schedule during the April 8, 2022, NHPA Section 106 consultation meeting and in meeting slides provided to consulting parties. BOEM additionally reviewed this schedule progress in the NHPA Section 106 consultation meeting of September 28, 2022. The March 8 schedule extended the overall Project consultation schedule, generally pushing out the dates of Project milestones. On October 1, 2022, BOEM provided the MWT and other consulting parties with a further updated Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates that extended the review period for NHPA Section 106 documents then under review.
BOEM-2022-0045-0102	40	Standardize the comment solicitation process and timeframes for this and each future project with tribal input (if the government cannot or will not consider all individual projects as being under the umbrella of one large project in accordance with previous tribal requests).	BOEM is following the requirements of the NEPA and NHPA Section 106 processes in the solicitation of comments. Consulting Tribal Nations have generally requested longer than the usual 30-day review and comment period on documents for NHPA Section 106 consultation for this Project, and BOEM has generally granted these requests. For reasons other than the requests of Tribal Nations, BOEM also extended the originally planned Project schedule, which had the effect of providing all parties with more time to consider the Project and anticipate Project milestones as they were moved outward.
BOEM-2022-0045-0102	41	Research federal funding and resources that will enable THPOs to seek advice from subject matter experts and other outside consultants as needed. Expecting understaffed and underfunded THPOs to conduct all necessary reviews and pay consultants to help meet unrealistically short deadlines amounts to an unfunded mandate.	BOEM would consider proposed measures, as could be implemented under the MOA (EIS Appendix J), that directly support the participation and capacity of Tribal Nations, including proposals for staff, time, and funding support.
BOEM-2022-0045-0102	42	Remove the requirement to submit comments through the website portal.	Regarding comments on the DEIS, the Federal Register Notice of Availability identified multiple methods of submitting comments to BOEM. Additionally, BOEM would accept information from Tribal Nations participating in government-to-government consultation on the Project in direct submittal to their BOEM point of contact(s) on the Project. Once received, BOEM can process the Tribal Nation comments on the EIS into the docket on regulations.gov.
BOEM-2022-0045-0102	43	MWT THPO Comments and Concerns · The government is not acting on tribal concerns expressed in previous projects (to the extent that the MWT refused to sign off on the MOAs for the South Fork and Vineyard Wind projects). · The MWT does not concur that the applicant-proposed mitigation measures in the DEIS are appropriate to fully address the nature, scope, size, and magnitude of potential adverse effects caused by the Project—including cumulative effects on ancient submerged landforms, terrestrial archaeological historic properties, and TCPs. These mitigation measures were developed without input or collaboration from the MWT as a consulting party under NHPA Section 106.	BOEM will continue consulting with MWT and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore. This includes holding further government-to-government consultation meetings with Tribal Nations. BOEM will consider all mitigation measures proposed during consultation on the MOA. The MOA would be implemented to resolve adverse effects to historic resource; this includes treatment of cumulative visual impacts to cultural resources.

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BOEM-2022-0045-0102	44	· Consult with federally recognized tribes on all proposed projects as a single federal action instead of on a project-by-project basis.	BOEM has consulted with federally recognized Tribal Nations in New England on multiple proposed offshore wind energy projects simultaneously, as described in EIS Appendix A. BOEM would continue to support these simultaneous consultation efforts in ongoing and future government-to-government meetings with Tribal Nations. However, the reasonably foreseeable future offshore wind energy developments do not represent a single federal action; they would each proceed (or not proceed) independent of each other. BOEM has analyzed the cumulative effects of the Project and other reasonably foreseeable future offshore wind energy developments throughout the EIS, namely in Section 3, Affected Environment and Environmental Consequences.
BOEM-2022-0045-0102	45	· Provide visual renderings of viewsheds that include WTGs from anticipated future projects if those previously provided exclude them.	Cumulative visual simulations of reasonably foreseeable future offshore wind energy developments are appended to the CHRVEA. These and additional cumulative visual simulations of future offshore wind developments are available at the Visual Simulations tab on BOEM's website for the Project at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. This tab also includes cumulative simulations for each Project alternative analyzed in the EIS. In response to these comments, BOEM directed Revolution Wind to produce further simulations that include some cumulative views. The new simulations have multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf
BOEM-2022-0045-0102	46	· Provide sufficient time for document review and feedback solicitation during all Project phases, and consult with the tribes regarding all scheduling matters.	At the onset of the consultation process and immediately before releasing the NOI in April 2021, BOEM made all Project announcements and notifications, including Project timing and dates, available to Tribal Nations. BOEM has communicated to the Tribal Nations variously in letters, emails, and meetings when information and documents were made available , including on the release of schedules and notifications of meeting times. In response to the consulting parties' request following the initial December 17, 2021, consulting party meeting, BOEM polled (i.e., through Doodle polls) all consulting parties, including MWT, on meeting dates and normally set all meeting dates to provide at least 30 days advance notice following polling. BOEM has provided more than the usual 30-day review period for most documents consulted on under the NHPA Section 106 process, integrated with the NEPA review, also at the consulting parties' request. On December 13, 2021, BOEM provided the Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates under BOEM's NEPA Substitution Process directly to the MWT and other consulting parties in preparation for the NHPA Section 106 consultation meeting on December 17, 2021; that schedule and the timing of the NEPA and NHPA review on the Project were further reviewed at that meeting and in meeting slides provided to consulting parties. On March 8, 2022, BOEM provided the MWT and other consulting parties with an updated Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates in preparation for discussion of the schedule during the April 8, 2022, NHPA Section 106 consultation meeting and in meeting slides provided to consulting parties. BOEM additionally reviewed this schedule progress in the NHPA Section 106 consultation meeting of September 28, 2022. The March 8 schedule extended the

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			overall Project consultation schedule, generally pushing out the dates of Project milestones. On October 1, 2022, BOEM provided the MWT and other consulting parties with a further updated Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates that extended the review period for NHPA Section 106 documents then under review.
BOEM-2022-0045-0102	47	· Meet with all consulting tribes (along with Revolution Wind, LLC) to revise the proposed mitigation measures and develop new, more equitable mitigation measures.	BOEM will continue consulting with the MWT and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to resources important to Tribal Nations, onshore and offshore. This includes holding further government-to-government consultation meetings with Tribal Nations. BOEM will consider all proposed mitigation measures during consultation on the MOA. The MOA would be implemented to resolve adverse effects to historic properties.
BOEM-2022-0045-0102	48	MWT THPO Comments and Concerns · The MWT views the entire area—including their own way of life—holistically (i.e., all things are interconnected); government does not necessarily share this view. (This includes relationships with whales and other wildlife.) · The Section 106 process does not take effect until the project is so far underway that tribes are not in a strong position to address their concerns when doing so would be effective. · The timeframe for comment solicitation is too brief. Three weeks from the Section 106 meeting to close of comments (27 September to 17 October) is far too short a window to adequately review and discuss concerns internally and among tribes, especially given the lack of resources THPOs have to address such a large volume of documents and multiple projects. This burden creates what amounts to an unfunded mandate. · The federal government is rushing these offshore wind projects for financial and political reasons, which presents an obvious conflict of interest.	BOEM respects the views of the MWT and Tribal Nations on the interconnectedness of their way of life and the environment, including their relationship with whales and other wildlife. BOEM will continue consulting with the MWT and other Tribal Nations to receive their views and input and continue holding government-to-government meetings. BOEM initiated the NHPA Section 106 consultation process in letters sent directly to the MWT and other Tribal Nations immediately prior to BOEM's release of the NOI for the Project in April 2021. BOEM has communicated to the Tribal Nations variously in letters, emails, and meetings when information and documents were made available, including on the release of schedules and notifications of meeting times. In review, on December 13, 2021, BOEM provided the Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates under BOEM's NEPA Substitution Process directly to the MWT and other consulting parties in preparation for the NHPA Section 106 consultation meeting on December 17, 2021; that schedule and the timing of the NEPA and NHPA review on the Project were further reviewed at that meeting and in meeting slides provided to consulting parties. At the consulting parties' request following the initial December 17, 2021, consulting party meeting, BOEM polled consulting parties (including MWT) on meeting dates and normally set all meeting dates to provide at least 30 days advance notice. Meeting materials have generally been disseminated 1 or more weeks in advance. At the consulting parties' request, BOEM provided more than the usual 30-day review period for most documents consulted on under the NHPA Section 106 process, integrated with the NEPA review. BOEM made the revised cultural resources technical reports, APE delineation memorandum, Finding, and draft MOA available to consulting Tribal Nations and other consulting parties under NHPA Section 106 on August 1, 2022, over 30 days in advance of the September 2 public release of the Draft EIS; nearly 60 days in advance of the September 27, 2022, NHPA Section 106 consultation meeting; and approximately 75 days in advance of the Draft EIS public comment period end date of October 17, 2022. On October 1, 2022, BOEM extended the review period for the NHPA Section 106 documents under review to October 30, 2022, for a total review period of 90 days. BOEM will continue consulting with the MWT and other federally recognized Tribal Nations, including through holding further government-to-government consultation meetings. BOEM follows all applicable laws on the Project, including as described in the regulatory framework at EIS Section 1.3. As noted in other responses, BOEM would consider proposed measures for implementation under the MOA (see EIS Appendix J) that directly support the participation and capacity of Tribal Nations, including proposals for staff, time, and funding support.

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BOEM-2022-0045-0102	49	Address IPFs and impacts to resource areas from an interconnectedness/holistic point of view, soliciting tribal input as appropriate.	IPFs are addressed in EIS Section 3.1, Impact-Producing Factors. Impacts to resources and resource areas are summarized by resource type in Affected Environment and Environmental Consequences, Section 3.4 through 3.22. BOEM invited the MWT to consult on the Project under NHPA Section 106 and in cooperation under NEPA in letters sent by BOEM to the MWT in April 2021 and has made all Project consultation information and documents available to Tribal Nations. BOEM has met with the MWT and other Tribal Nations in government-to-government consultation, in consultation under NHPA Section 106, and in cooperating party consultation on the EIS under NEPA. BOEM will continue consulting with the MWT and other Tribal Nations to receive their views and input.
BOEM-2022-0045-0102	50	Extend the deadline for comments on the Section 106 process such that THPOs have adequate time to internally and collaboratively discuss and articulate concerns.	BOEM initiated the NHPA Section 106 consultation process in letters sent directly to the MWT and other Tribal Nations immediately prior to BOEM's release of the NOI for the Project in April 2021. BOEM has communicated to the Tribal Nations variously in letters, emails, and meetings when information and documents were made available, including on the release of schedules and notifications of meeting times. On December 13, 2021, BOEM provided the Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates under BOEM's NEPA Substitution Process directly to the MWT and other consulting parties in preparation for the NHPA Section 106 consultation meeting on December 17, 2021; that schedule and the timing of the NEPA and NHPA review on the Project were further reviewed at that meeting and in meeting slides provided to consulting parties. At the consulting parties' request following the initial December 17, 2021, consulting party meeting, BOEM polled consulting parties (including MWT) on meeting dates and normally set all meeting dates to provide at least 30 days advance notice. Meeting materials have generally been disseminated 1 or more weeks in advance. At the consulting parties' request, BOEM has provided more than the usual 30-day review period for most documents consulted on under the NHPA Section 106 process, integrated with the NEPA review. If the MWT or other Tribal Nations need additional time to review documents, BOEM would consider this on a case-by-case basis and try to work with the Tribal Nation(s) to accommodate this request.
BOEM-2022-0045-0102	51	Ensure that all affected stakeholders have adequate time with which to express comments and concerns throughout all project phases, with timeframes clearly defined and agreed upon by affected tribes.	BOEM initiated the NHPA Section 106 consultation process in letters sent directly to the MWT and other Tribal Nations immediately prior to BOEM's release of the NOI for the Project, in April 2021. BOEM has communicated to the Tribal Nations variously in letters, emails, and meetings when information and documents were made available, including on the release of schedules and notifications of meeting times. On December 13, 2021, BOEM provided the Table of Revolution Wind Offshore Wind Project Section 106 Consultation Schedule Milestones and Approximate Dates under BOEM's NEPA Substitution Process directly to the MWT and other consulting parties in preparation for the NHPA Section 106 consultation meeting on December 17, 2021; that schedule and the timing of the NEPA and NHPA review on the Project were further reviewed at that meeting and in meeting slides provided to consulting parties. At the consulting parties' request following the initial December 17, 2021, consulting party meeting, BOEM polled consulting parties (including MWT) on meeting dates and normally set all meeting dates to provide at least 30 days advance notice. Meeting materials have generally been disseminated 1 or more weeks in advance. At the consulting parties' request, BOEM provided more than the usual 30-day review period for most documents consulted on under the NHPA Section 106 process, integrated with the NEPA review. If the MWT or other Tribal Nations need additional time to review documents, BOEM would consider this on a case-by-case basis and try to work with the Tribal Nation(s) to accommodate this request.

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BOEM-2022-0045-0102	52	MWT THPO Comments and Concerns Responses to MWT's questions concerning the DEIS that include references to the Environmental Studies Program or other BOEM-created documentation are unacceptable. Only peer-reviewed studies will be considered acceptable. Recommended Action Items Reference only peer-reviewed reports and studies to support EIS determinations.	BOEM has followed proper reference and citation procedures in the EIS, and as summarized in EIS Appendix B and as maintained in the administrative record for the EIS.
BOEM-2022-0045-0102	53	Research and Document Review Summary Appendix A of the DEIS notes references a 20 August 2020 consultation between BOEM and various tribes, including the MWT, that concluded with a BOEM action item to provide consulting parties with additional reports. Whether that action item was completed is unclear.	BOEM has continued to provide Tribal Nations with available information and reports through time, including on the Project, as described in previous response to MWT comments regarding scheduling and review.
BOEM-2022-0045-0086	30	Additionally, the DEIS states in Table 3.10-7, "The impacts of the Proposed Action as they relate to climate change would be the same as the No Action Alternative." This statement ignores the climate benefits of the Project, which are noted in the same table entry.	Thank you for your comment. The text in Table 3.10-7 has been revised to clarify Project climate benefits.
BOEM-2022-0045-0086	31	Table 3.10-7 - Alternatives C to F assesses seabed disturbance impacts to submerged cultural resources and states that greater separation between WTGs and submerged cultural resources is preferable. The distance separating a submerged resource from a foundation is not a meaningful measure of impact if the resource - which is submerged and not visible to the public - is not disturbed by any of the options being considered. The submerged cultural resources would be either disturbed or not disturbed. This analysis should focus on whether resources are avoided by the various alternatives, not whether avoidance is by "a lot" or "a little". For example, see Table 3.10-7 "New Cable emplacement" under Alternative B: "Where Revolution Wind would avoid the shipwreck sites by a distance of 50 meters (m) (164 feet), the Project would have no impact on them." Revolution Wind will be providing additional feedback on the draft Memorandum of Agreement and Finding of Effects in a formal comment letter in accordance with the Section 106 review timeframe.	Please note that all alternatives consider whether ancient submerged landforms and potential historic shipwrecks are avoided by alternatives or not. However, consulting parties under NHPA Section 106 have expressed concerns for the distances by which shipwrecks and ancient submerged landforms are avoided. Greater avoidance buffering is considered to afford greater protection tolerances.
BOEM-2022-0045-0086	38	The DEIS states that "disturbance and destruction of even a portion of an identified submerged landform could degrade or eliminate the value of these resources as potential repositories of archaeological knowledge and cultural significance to tribes." The DEIS does not support this statement with a reference to communication made during Government to Government (G2G) consultations with the Tribes and is inconsistent with Revolution Wind's engagement with Tribes. The DEIS does not clearly establish why minor adverse impacts could occur to Ancient Submerged Land Forms (ASLFs) even if all seabed disturbance within the protective buffers is avoided. If these statements are based on G2G consultations, Revolution Wind respectfully requests a reference be included.	BOEM adjusted the text in EIS Section 3.12, Environmental Justice, regarding the disturbance and destruction of identified submerged landforms. The EIS further notes that BOEM remains in consultation with Native American tribes and NHPA Section 106 consulting parties regarding identified historic properties, the adverse effects, and the resolution of adverse effects. Both government-to-government consultation, as summarized in EIS Appendix A, and ongoing NHPA Section 106 consultation with tribes, as summarized in the Finding in EIS Appendix J, support Tribal Nation concerns with the disturbance of ancient submerged landforms. The EIS states that the range of impacts to ancient submerged landforms would range from potentially negligible to minor; negligible and minor impacts are defined in EIS Section 3.3, Definition of Impact Levels.
BOEM-2022-0045-0086	81	Page 3.10-27, Section 3.10.2.1: The following statement incorrectly asserts a conditional framework for the post-review discovery plan: "If previously undiscovered or unimpacted historic properties are identified and moderate to major negative effects cannot be avoided, BOEM would require a post-review discovery plan (see Appendix J) be implemented to assess and resolve any negative effects." Such a plan is required under the S106 MOA, regardless of whether a discovery actually occurs or whether avoidance is feasible.	The text regarding the post-review discovery plan was revised in EIS Section 3.10 to clarify that use of the appropriate onshore or offshore discovery plan would be pursuant to the MOA.
BOEM-2022-0045-0116	2	Oh, thank you for being here. And I don't mean this as a reproach. But when you come into Tribal lands, you all must do a Land Acknowledgement. And this was not done by BOEM.	BOEM acknowledges the Tribal Nations' current and ancestral ties to the area lands, waters, and environment. BOEM further recognizes Tribal Nations' long historical association with the land and seas in the region and at the Project, as discussed in BOEM's detailing of ancient submerged landform contexts in the Finding (see EIS Appendix J).
BOEM-2022-0045-0116	11	Bettina Washington; for some of you folks, you all know that I'm the Tribal Historic Preservation Officer for the Wampanoag Tribe at Gay Head, Aquinnah. This particular wind project, out of all of them that are planned for south of our island, I believe, from what I have seen, will have the most detrimental effect on our viewshed. Tribally speaking, this is off our sacred place. It affects Nomans. It affects Moshup's Rock. It affects the Aquinnah Cliffs, Moshup's Bridge, the Elizabeth Islands, the Vineyard Sound. That's the cultural viewshed for us. There's nothing more important in terms of our oral history. That is the place. We have been here for time immemorial. It was interesting when I heard the NEPA. It says harm to humans. Speaking as a Tribal person, we are part of the chain, that whole circle. We cannot separate ourselves from our relatives that live in the ocean.	BOEM will continue consulting with the Wampanoag Tribe at Gay Head (Aquinnah) and other federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to historic properties, including TCPs and ancient submerged landforms. Through consultation, BOEM will work to adapt and finalize the resolution of adverse effects in revision of the MOA and its HPTPs in Draft EIS Appendix J. BOEM will continue involving the Wampanoag Tribe at Gay Head (Aquinnah) and other federally recognized

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		And I have stated more than once how important the Right Whale is to our culture. There are 340 of those whales in the world, in the world. I am concerned with the boat traffic. How many of these boats are going to be running back-and-forth? Where they're coming from, where are they going to be in the harbor? There are a lot of unknowns. These cables will be running through and they will be running into ancient submerged archaeological sites. Once these are uncovered, they are destroyed. How are we going to gather that information without destroying them? We can't. They're gone. We don't have the technology yet. And once we are -- we don't know about the siltation of when these turbines are placed into the ocean. Where is that going? How is that going to affect the fish? I know there are closed periods. However, we still need to be careful. Right now, we have the bass derby going on. Is that going to affect that, when -- if that is, indeed, when the construction time happens? What about our herring run in the spring? Well, that's the spring and the fall. That leaves the summer and that's when the whales are here. I don't -- I have not received the complete picture of the effects on the marine environment, which, in turn, affects the economy of this island that relies so heavily. Not the fishing in and of itself, but also the economic part of it. People come to the island to fish. People come here for tourism. And I'm not so sure that's what they want to see, especially at sunset, because they will be backlit. So those are just some of the issues, because, as some of you may understand, Section 106, BOEM has been consulting with us for quite some time. And there are a number of issues. And once you go on one issue, you end up down a rabbit hole. But I'd like to thank you, all, for coming here. Thank you for putting that comment notice in the paper, because I had asked for that. I tell people not everybody reads the Federal Register. So I do appreciate that. Thank you	Tribal Nations on the EIS, providing information and participation in consideration of the marine mammal concerns important to the Wampanoag Tribe at Gay Head (Aquinnah).
BOEM-2022-0045-0116	14	There are a lot of unknowns. These cables will be running through and they will be running into ancient submerged archaeological sites. Once these are uncovered, they are destroyed. How are we going to gather that information without destroying them? We can't. They're gone. We don't have the technology yet.	Thank you for your comment. BOEM will continue to consult with federally recognized Tribal Nations on the avoidance, minimization, and mitigation of adverse effects to historic properties, including TCPs and ancient submerged landforms. Through consultation, BOEM will work to adapt and finalize the resolution of adverse effects in revision of the MOA and its attached HPTPs (see EIS Appendix J). BOEM is applying the EIS documentation, and supporting documentation referenced in the EIS, in BOEM's reasonable and good faith efforts to identify historic properties, in accordance with 36 CFR 800.4. These efforts include, but are not limited to, BOEM taking into account past planning, research and studies, the magnitude and nature of the Project undertaking and the degree of federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. BOEM has produced the Finding (see EIS Appendix J) for BOEM's determination of adverse effects pursuant to the undertaking. BOEM is applying the criteria of adverse effect from 36 CFR 800.5 et seq. and applying the special requirements for minimizing harm to NHLs at 36 CFR 800.10 and for Section 110(f) compliance. BOEM remains in consultation with consulting parties on the identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects under NHPA Section 106. For all offshore archaeological investigations, as presented in the MARA, BOEM analyzed geophysical and remote sensing techniques (e.g., side-scan sonar) to identify where not only possible historic shipwrecks would be but also ancient submerged landforms may contain archaeological assemblages associated with Native American heritage. Identification of soil and sediment deposits onshore and offshore guided the placement, number, and depth of subsurface probes (vibracores offshore and shovel tests onshore), to confirm the presence or absence of soils and sediments capable of retaining archaeological materials. All ancient submerged landform features offshore would be avoided. However,

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			all such features may not be avoidable, such as on the RWEC where ancient stream channels must be crossed somewhere for the Project to be feasible, but it cannot be fully determined in advance if cable burial depth would remain in sediments above the submerged landform. If avoidance is not feasible, ancient submerged landforms would be treated as historic properties and adverse effects to them would be mitigated under NHPA Section 106, as presented in the EIS (see Appendix J). Post-review discovery planning would also be applied should any unanticipated archaeological materials be identified during construction or O&M.
BOEM-2022-0045-0116	17	So those are just some of the issues, because, as some of you may understand, Section 106, BOEM has been consulting with us for quite some time. And there are a number of issues. And once you go on one issue, you end up down a rabbit hole. But I'd like to thank you, all, for coming here. Thank you for putting that comment notice in the paper, because I had asked for that. I tell people not everybody reads the Federal Register. So I do appreciate that. Thank you	Thank you for your comment. BOEM endeavors to provide notification of the opportunity to review and comment through a variety of means. In addition, BOEM advertised public hearings with the release of the Draft EIS on the BOEM website for the Project as well as other media, such as local newspapers. Remote access was provided through virtual meetings, and in-person hearings were provided in local locations in Rhode Island and Massachusetts near the Project.
BOEM-2022-0045-0123	1	Analysis of Incomplete Documents - Section 106 and NEPA Substitution We continue to be concerned that NPS is repeatedly asked to review documents that are either unavailable, incomplete, or missing whole sections regarding the identification of and impacts to historic properties, specifically NHLs, which is central to our main concerns with many of these projects. Revolution Wind is no exception to this pattern. BOEM is sending incomplete documents for review because they have not finished writing the sections and asking the NPS to read and comment on conclusions when the analysis is missing. When the completed sections become available, it takes time to understand where they fit in the DEISs and the now available documents, requires NPS staff to review the original documents, understand how the new material will be incorporated and what the resulting impacts to resources of NPS concern would be. This piecemeal approach makes it difficult for the NPS, as a Section 106 consulting party and participating agency under NEPA, to provide meaningful review or comment on resources that may be impacted or what the impacts may be. It is creating unacceptably short timeframes for review, impacting our ability to fulfill our role as a participating or cooperating agency and provide useful and timely comments to BOEM. We ask that future documents be complete before they are released for agency (and public) comment.	As a cooperating agency under NEPA, the NPS is provided an early opportunity to review the EIS and its appendices, which means they are in a preliminary state. The NPS further has the opportunity to review the issued EIS, draft and final, in their complete state. BOEM has made available to the NPS all completed NHPA Section 106 reports and documents, including unredacted and full copies of cultural resources documents that were redacted or summarized for public release. These documents include full information on NHLs. Where the NPS has commented previously that the agency did not have access to Appendix BB of the COP, please note access to this document (indeed, all parts of the Project COP) were provided to the NPS along with other consulting parties, as part of BOEM's release of the cultural resources technical reports under NHPA Section 106 consultation, on February 28, 2022. The NHL supplemental documentation was created by Revolution Wind and distributed by BOEM on October 1, 2022, pursuant to comments and requests from NHPA Section 106 consulting parties on the cultural resources technical reports; therefore, the NHL supplemental documentation was released separate from and subsequent to the cultural resources technical reports. However, BOEM then extended the review period for all cultural resources technical reports, the Finding, and draft MOA from August 1–October 17 to August 1–October 31, 2022, so that the NHL supplemental documentation could be considered over a 30-day period with the other documents. Although a 30-day review period is the usual period provided pursuant to NHPA Section 106 document review, it should be noted that BOEM has provided a longer period for most NHPA Section 106 document reviews on the Project.
BOEM-2022-0045-0123	2	Given this piecemeal approach, we question whether and how BOEM can meaningfully use NEPA substitution to address its responsibilities under Section 106 of the National Historic Preservation Act. For example, we note from Appendix C (pg. C-5) that "Information pertaining to the identification of historic properties within certain portions of the marine archaeology area of potential effects will not be available until after the record of decision (ROD) is issued and the COP is approved. BOEM will prepare a ROD in consultation with the National Historic Preservation Act Section 106 consulting parties that will allow for deferred identification and evaluation of historic properties within the marine archaeology area of potential effects, facilitating that a good faith effort to identify historic properties and assess effects is fully performed prior to construction. The ROD will apply to the alternative(s) selected. Therefore, BOEM has not identified incomplete or unavailable information on cultural resources that is essential to a reasoned choice among alternatives." The language above clearly means that the identification of historic properties that may be affected and an assessment of effects to historic properties will be completed during or after the development of the ROD. How BOEM will be able to conduct consultation on these steps in the Section 106 process after the FEIS is complete (including its assessment of impacts) is unclear. How can impacts to resources such as historic properties be analyzed within the NEPA process when those resources	Please note that no additional archaeological research of geomorphic features, onshore or offshore, will be necessary; EIS Appendix C was corrected to reflect this.

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		have yet to be identified? The NPS is concerned the use of NEPA substitution in lieu of the Section 106 process may result in a less than satisfactory assessment of effects to historic properties.	
BOEM-2022-0045-0123	3	National Historic Landmarks (NHLs) As previously mentioned, NPS has specific responsibilities for NHLs under the NHPA. NHLs are historic properties that illustrate the heritage of the United States. The NPS has specific responsibilities with regards to administration of the NHL Program. All NHLs are also included on the National Register of Historic Places (NRHP), a list of some 80,000 historic properties that the National Park Service deems to be worthy of recognition, while just over 2,600 are designated as NHLs. NHLs found in the U.S. today come in many forms: historic buildings, sites, structures, objects, cultural landscapes, and districts. Each NHL represents an outstanding aspect of American history and culture. Of note, federal funding or licensing of activities that affect historic properties are regulated principally by Sections 106 and 110(f) of the National Historic Preservation Act (NHPA). Other federal effects are listed in 36 CFR § 65.2. Under Sections 106 and 110(f) of the Act, federal agencies must "take into account" the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking and its effects. Implementing regulations of the ACHP may be found in 36 CFR § 800 "Protection of Historic Properties," which establishes a process of consultation with the State Historic Preservation Officer (SHPO) and the ACHP leading, in most instances, to agreement on how the undertaking will proceed. Steps in the process include identification and evaluation of historic properties that may be affected, assessment of the effects of the federal action, and resolution of any adverse effects that would occur. If a federal activity will "directly and adversely affect" an NHL, Section 110(f) of the Act also calls for federal agencies to undertake "such planning and actions as may be necessary to minimize harm to such Landmark." As with Section 106, the agency must provide the ACHP with a reasonable opportunity to comment in accordance with 36 CFR § 800.	As stated in BOEM's Finding (see EIS Appendix J), BOEM has notified the NPS (as delegate of the Secretary of the Interior) and the ACHP of BOEM's determination of adverse effect to NHLs. BOEM provided the Finding to the NPS, ACHP, and other NHPA consulting parties on August 1, 2022. The ACHP and NPS have been active consulting parties on the Project since BOEM invited them to consult at the initiation of the NHPA Section 106 process on the Project on April 6 and April 29, 2021, respectively. BOEM is fulfilling its responsibilities to give a higher level of consideration to minimizing harm to NHLs, as required by NHPA Section 110(f), through implementation of the special requirements outlined at 36 CFR 800.10 (BOEM 2021a).
BOEM-2022-0045-0123	4	Nighttime Impacts and NHLs: Assessment of Effects Please explain how BOEM arrived at the conclusion that "The impacts of construction and operations lighting would be limited to cultural resources on the shoreline for which a nighttime sky is a contributing element to historic integrity. This excludes resources that are closed at night, such as historic buildings, lighthouses, and battlefields, and resources that generate their own nighttime light, such as historic districts." DEIS, pg. E1-68. If this is tied to law or policy, please provide a citation. NPS has seen this language in other PDEISs and does not understand or agree with these seemingly required elements. It is also important to note that National Register and National Historic Landmark nominations, the principal documents describing historical significance and resource integrity of designated properties, very likely would not explicitly address nighttime skies as a contributing element to historic integrity. Furthermore, National Register nomination forms and requirements have evolved over time and can vary significantly in depth and breadth, ranging from a few pages to hundreds of pages in length. More recent nominations may more fully consider contemporary relevance and more complex social contexts. Additionally, while National Register and National Historic Landmark facilities may not be regularly staffed at night, there are a variety of ways visitors and user groups may passively enjoy and associate with important cultural resources and where a dark night sky/dark seascape setting contributes to that experience. For example, battlefields and cemeteries are often used by individuals and groups as places of quiet reflection, contemplation, connection, and ceremony. Lighthouses and Light Stations, such as Block Island South East Light NHL, are often iconic symbols of a community's maritime history and identity, where views to the resource, especially from the water, and from long distances, particularly at night, are important.	Lighting is specifically analyzed as an IPF for cultural resources and was found to contribute to adverse effects on historic properties where it reached moderate to major impact levels in the analyses. These cultural resources include historic properties and buildings, such as lighthouses and properties within historic districts, for which a nighttime sky is a contributing element to historic integrity. Please note that although the language referenced in the comment is included in Table E2-9 in Draft EIS Appendix E1 under Sub-IPF "Light: Vessels," the analysis of impacts on cultural resources and the analyses of the various alternatives in EIS Section 3.10 consider Project construction lighting and navigation lighting. See, for example, the Light subsection at Section 3.20.2.2. The Finding (see Section 5.1.2.1) specifically considers adverse effects from construction and installation lighting, and discusses this in context of consideration of Project alternatives considered, cross-referencing to the EIS. Further, the EIS considers that existing ambient lighting would reduce the impacts of Project lighting at some locations and, therefore in contrast, be greater where darker skies prevail. Weather and atmospheric conditions are considered, as is distance from offshore Project facilities to historic properties because that would ameliorate the effects of lighting impacts. The lighting impacts would be most pronounced (although for a short duration with the implementation of an ADLS) for locations that can be currently characterized as undeveloped within the seascape both from an onshore and offshore perspective, where lighting from infrastructure and activities is not dominant or perceivable by the casual observer (viewer), as described in the EIS lighting analysis under Visual Resources Section 3.20.1.1.1. This could occur at more remote and isolated properties, like some lighthouses, including Gay Head Light and Southeast Lighthouse NHL, as well as other historic properties adversely affected by lighting impacts in the Project APE. The HRVEA documentation that supports the assessment of visual effects in EIS Section 3.10 Cultural Resources does not simply rely on the NHL or NRHP nominations for historic properties, but further considers the historic significance and character of the historic properties in the

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			APE in relation to their maritime settings as assessed in relation to the current Project and its potential for visual impacts.
BOEM-2022-0045-0123	6	The CHRVEA on pgs. 46 and 47 in its Nighttime Lighting analysis makes some good points about the use of aircraft detection lighting systems (ADLS) and the curvature of the earth reducing lighting impacts at night. However, most of the wind turbine generators (WTGs) would be less than 16 miles away, so all lights would be visible, especially the U.S. Coast Guard (USCG) lights on the WTG foundations which would always be on. "At Aquinnah Overlook at night, the HRVEA notes that flashing red aviation warning lights would be visible higher upon WTGs but that flashing amber USCG warning lights around WTG foundations would have a greater visual prominence due to their lighter coloring against the black sky and ocean. The addition of warning lights on the WTGs would increase visual clutter at the horizon. Also, the number and mass of lights would diminish the sense of openness (EDR 2022a)." NPS requests additional analysis to determine if there is anything else in addition to use of ADLS that would reduce these impacts. Are there options for the USCG lighting without sacrificing safety? Could lights be put on motion sensors, timers or keyed to vessel identifiers so they come on only when boats are near? Could lumens be reduced on the USGS lights? NPS will participate in discussions of avoidance, minimization and mitigation measures during the Memorandum of Agreement (MOA) discussions that will take place in the future.	BOEM follows the guidance of the lighting and safety requirements of the USCG and the FAA for marine navigation and aircraft warning, as established in BOEM's 2021 Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development, cited in the EIS (Appendix B, see Chapter 2). The use of the ADLS system is intended by BOEM to be consistent with FAA guidance. The USCG requires that offshore wind lessees and grantees obtain permits for private aids to navigation and USCG lighting, and other safety requirements would need to be met for that permitting (PATON, see 33 CFR 67). It should be noted that the ADLS is proposed to have a shorter duration synchronized flashing that is activated as needed by passing aircraft and would reduce visual impacts at night. As described on p. 3.20-5 of the Draft EIS, "Based on a recent study by Capital Airspace related to ADLS efficacy associated with the RWF, historic air traffic data for flights passing through the warning light activation area indicated that the ADLS would have been activated for a total of 3 hours 35 minutes and 39 seconds over a 1-year period." Please see COP Appendix S4 for this ADLS efficacy analysis. Additionally, the developer has committed to limiting construction and operational lighting to the minimum needed for safety and compliance with applicable regulations and to using light technology such as low-intensity strobe lights that still comply with FAA and USCG requirements in order to reduce impacts to avian species, bats, and cultural/visual resources. See Draft EIS Appendix F. Therefore, minimization of lighting in compliance with FAA and USCG requirements would be addressed. Please also see new simulations that BOEM requested Revolution prepare, with multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf In relation to the avoidance, minimization, and mitigation of adverse effects from lighting, BOEM will continue consulting with the NPS, ACHP, and other consulting parties to further minimize harm to NHLs and on the resolution of adverse effects to historic properties. This will include considering all proposed mitigation measures in consultation on the MOA.
BOEM-2022-0045-0123	7	In many places, the DEIS contains the language: "Given the minimal and localized nature of lighting effects anticipated under this guidance, the related effects from proposed future activities on [a resource] are likely to be negligible adverse." In other places, project-related lighting impacts are determined to be negligible to minor adverse because the lightings are "localized and short term." NPS does not agree with the methodology of determining the level of lighting impact based on the subjective assessment of lighting level, area, and duration. The construction phase, for example, takes several months if not years. While this time frame might seem short on the overall project scale, it is not short when viewed by itself. For the operations and maintenance (O&M) phase, Service Operation Vessels will likely operate at the site 24/7 so its lighting should not be considered short term. Furthermore, from a cumulative standpoint of multiple projects, lighting impact could be constant for decades. Therefore, please reconsider rating the lighting impact with more supportive evidence or reevaluate the impacts accordingly.	The effects of construction lighting best meet the definition of temporary effects as presented in EIS Table 3.3-4, Definition of Duration Terms. The EIS text has been corrected in relation, where needed, in Section 3.10. Project construction is anticipated to occur within an 18-month period, necessarily persisting multiple calendar years; however, the visual effects of construction would end when construction ends. Nevertheless, temporary effects are effects and can be adverse. The effects of construction lighting on NHLs and historic properties were specifically used in the analysis of visual impacts in EIS Section 3.10, Cultural Resources. Adverse effects from the continuous lighting from construction through installation and decommissioning were found for the Project, specifically in relation to the cumulative effects of the Project with the potential lighting effects of other future offshore wind energy developments. The CHRVEA, which is relied upon and cited in the EIS (Appendix B), informs this cumulative analysis. The CHRVEA Construction Lighting section identifies where the anticipated calendar years of Project construction (and the

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			resulting installation lighting) would overlap with the construction and installation lighting of other future offshore wind energy developments. The Finding (see Section 5.1.2.1) specifically considers adverse effects from construction and installation lighting, and discusses this in context of consideration of Project alternatives considered, cross-referencing to the EIS.
BOEM-2022-0045-0123	8	Lighting impacts from Alt. F do not appear to be fully described (DEIS, pg. 3.10-36). Due to the taller WTGs, there would be fewer total WTGs, but those WTGs would all have additional mid tower lighting. We ask BOEM to disclose this and the impacts of additional lighting assessed. BOEM recognizes that the viewshed is integral to the historic setting of the properties. “BOEM defines the APE for visual impact analysis (hereafter the viewshed APE) as the geographic areas from which the offshore and onshore Project components could be seen." (DEIS, pg. 3.10-15.) BOEM doesn’t differentiate between daytime or nighttime. In other parts of the DEIS, as noted above, the impact analysis for nighttime visuals is restricted to those historic properties that are only associated with nighttime visuals or dark skies as part of their significance or setting and feel of the listed property. NPS requests BOEM use a broader approach/metric for nighttime visual analysis for all wind projects, such as "can the WTGs be seen from the cultural resources?" This is in contrast to only analyzing the cultural resources where dark skies is written in the National Register Form for the listed or eligible historic property, which as we also noted above may be rare given the National Register form age and level of detail.	Alternative F does not include taller WTGs than any of the other action alternatives for the Project. BOEM’s specifications for Alternative F would require that the alternate use of 14-MW WTGs be implemented within the same physical dimensions of the PDE as proposed for any other MW WTG for the Project, limiting maximum WTG height to 873 feet at vertical blade tip above the mean sea level. See the description of Alternative F in EIS Section 2.1.6. For the delineation of the APE for potential visual effects, BOEM took into account the full potential visibility for the Project facilities, daytime or nighttime, in defining combined day and night viewshed areas for the Project within the APE, onshore and offshore (see EIS Figures 3.10-3 and 3.10-4). BOEM differentiates nighttime lighting and daytime presence of structure visibility as analyzed under separate IPFs throughout the EIS Cultural Resources and Visual Resources sections (3.10 and 3.20 respectively), as well as the onshore, offshore, and CHRVEA and the VIA, which are relied upon for viewshed analyses as cited in the EIS (see Appendix B). Lighting is specifically analyzed as an IPF for cultural resources and, as a result of this analysis, lighting was found to contribute to adverse effects on historic properties where reaching moderate to major impact levels (EIS Section 3.10). The HRVEA documentation that supported the assessment of visual effects in EIS Section 3.10, Cultural Resources, did not simply rely upon the NHL or NRHP nominations for historic properties, but further considered the historic significance and character of the historic properties in the APE in relation to their maritime settings as assessed in relation to the current Project and its potential for visual impacts.
BOEM-2022-0045-0123	13	Need for Clarification NPS found a number of specific concerns and inconsistencies we ask BOEM to correct or clarify. For instance, "From 451 viewshed resources identified within the offshore HRVEA, viewshed analyses found 101 above ground viewshed resources with the potential to be negatively affected from a moderate to major degree in the viewshed APE (EDR 2022). These moderate to major impacts would rise to a level of adverse effects under the NHPA Section 106 criteria at 36 CFR 800. These 101 viewshed resources consist of two Traditional Cultural Properties (TCPs) and 99 historic buildings, structures, or districts (including five National Historic Landmarks [NHLs]" (Pg 277 of DEIS). However, on page 292, the DEIS says: "Twelve of the NHRP-listed viewshed resources are also NHLs (EDR 2022)." We understand that pg. 277 is talking about terrestrial cultural resources and pg. 292 drills down to viewshed resources, but it is our understanding that all are within the APE. This discussion also references 3 TCPs, which would appear to total five TCPs in the APE. Please clarify these inconsistencies.	BOEM appreciates the complexity of the analysis but does not believe that any of the cited examples present inconsistencies. Within the context of the presentation of cultural resources in EIS Section 3.10, please note that 12 of the total 451 viewshed resources identified within the offshore HRVEA are NHLs. However, of the 101 aboveground viewshed resources with the potential to be negatively affected from a moderate to major degree in the viewshed APE, only five are NHLs. Within these counts, there are five TCPs in the viewshed APE, and only two of these TCPs would have the potential to be negatively affected from a moderate to major degree in the viewshed APE. EIS Section 3.10 identifies viewshed resources, terrestrial resources, and marine resources in separate subsections due to the differing potential for Project effects on these resource types, and identifies them in different situations within the APE, situating them in the viewshed APE, the terrestrial APE, or the marine APE subareas.
BOEM-2022-0045-0124	1	Terrestrial Archaeological Resources Assessment and Site Identification Survey – Revolution Wind Farm Project – Onshore Facilities The Phase I archaeological survey conducted by PAL in North Kingstown in the project area for the interconnection to the exiting electrical system identified the Mill Creek Swamp #1, Mill Creek Swamp #2, and Quonset Substation sites and QDC Find Spot on Quonset Development Corporation and The Narragansett Electric Company properties. We concur with PAL’s recommendation that the Mill Creek Swamp #1 and Mill Creek Swamp #2 sites are eligible for listing in the National Register of Historic Places (National Register). We further concur that the Quonset Substation site, a low-density lithic scatter, and the QDC Find Spot, an isolated quartz flake, are not eligible for listing in the National Register. We recommend that Mill Creek Swamp #1 and Mill Creek Swamp #2 sites be avoided through redesign of the project. If this is not possible, an archaeological mitigation plan, developed in consultation with the Narragansett Tribal Historic Preservation Officer, will be necessary to address adverse effects to these sites.	The TARA indicates, preliminarily, the Project’s potential for effect on cultural resources, including historic properties, as defined under the regulations for Section 106 of the NHPA at 36 CFR 800. BOEM has produced the Finding for BOEM's determination of adverse effects pursuant to the regulations. BOEM, applying the criteria of adverse effect from 36 CFR 800.5 et seq., determined that the Project would adversely affect the Mill Creek Swamp # 1 and #2 sites where Project actions are unable to avoid them. BOEM remains in consultation with consulting parties on identified historic properties, the assessment of effects, and in planning for the resolution of adverse effects. To minimize unavoidable adverse effects to these two historic properties, BOEM would limit the Project disturbance at these properties to the extent feasible. BOEM would mitigate remaining adverse effects under the Project MOA and has released a revised draft of this MOA, including the draft

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			HPTP for mitigation of these two historic properties, for consulting party comment. BOEM is engaged in government-to-government consultation with tribes on the Project, in particular if they have any comments or concerns regarding these historic properties.
BOEM-2022-0045-0124	2	Memorandum: Revolution Wind Project – Updates to Historic Resources Visual Effects Analysis (HRVEA) The Memorandum summarizes responses to RIHPHC comments transmitted by letter dated 27 April 2022. Of the issues that we raised which are covered in the Memorandum, one is not addressed fully. We again request information on how Revolution Wind determined the significant maritime setting for properties that have been determined eligible for National Register of Historic Places (NRHP) listing by the RIHPHC, but which are not listed. In most cases, the contextual information about these properties is not in print or is minimal, at best.	In the revised offshore HRVEA, BOEM made available additional detail on how the significant maritime setting was assessed for historic properties, as BOEM had stated in response to the prior RIHPHC comments on the HRVEA. The revised HRVEA and BOEM's response to prior comments were distributed to NHPA Section 106 consulting parties on August 1, 2022. As BOEM stated, further information was provided in the HRVEA, beyond Revolution Wind's supplemental memorandum, that summarized further how Revolution Wind addressed RIHPHC and other consulting party comments in revising the HRVEA. Within the revised offshore HRVEA, distributed by BOEM to NHPA Section 106 consulting parties on August 1, 2022, the authors substantially expanded various sections describing the contexts within which significance and integrity of historic properties were considered. In particular, the description of the siting of historic properties in the APE, including the summary of the attributes important to a range of historic properties, was substantially expanded in HRVEA Section 3, which discusses the historic properties within the study area for potential visual effects. The HRVEA documentation that supported the assessment of visual effects did not simply rely upon the NHL or NRHP nominations for historic properties, but further considered the historic significance and character of the historic properties in the APE in relation to their maritime settings as assessed in relation to the current Project and its potential for visual impacts. Revised HRVEA Section 4, Visual Effects Analysis, provides a more extensive review of the characteristics contributing to historic significance for each of the identified aboveground historic properties. The HRVEA assesses whether or not the property has a significant maritime setting. Once this was determined, the HRVEA provides concise description of the contexts within which the range of aboveground historic properties in the APE were considered to have both significance and integrity of maritime setting. In response to RIHPHC and consulting party comments, the HRVEA Appendix A was correspondingly revised to reflect the consideration of the maritime setting and other contextual details of each historic property identified in the APE for potential visual effects from offshore Project facilities. The EIS reflects these matters where BOEM applied the information in the revised offshore HRVEA to inform its analysis of aboveground historic properties and NHLs in EIS Section 3.10 and in the Finding in EIS Appendix J.
BOEM-2022-0045-0124	3	National Historic Landmarks Supplemental Documentation The new simulations that were provided in the National Historic Landmarks (NHL) Supplemental Documentation are very helpful in assessing the effects for these nationally significant properties. While we are in agreement with Revolution Wind and BOEM regarding the affects to these properties, for future projects, we reiterate from our 27 April letter that in NHL Districts including a sizable area, multiple simulations should be included and sunrise, sunset, and night simulations should be included for NHLs, if not for all of the key observation points.	BOEM reiterates that the visualizations prepared for the Project VIA, HRVEA, CHRVEA, and NHL supplementation documentation present a broad range of lighting and atmospheric conditions appropriate to assess the potential visual effects to historic properties located in the APE. BOEM finds the documentation acceptable and sufficient to enable any reviewing parties to understand the basis of BOEM's determinations and findings on the undertaking under NHPA Section 106 (per 36 CFR 800.11(a)). The HRVEA and supporting VIA visualizations are not found by BOEM to underrepresent the size or number of WTGs. Numerous visualizations are provided in the VIA, HRVEA, and CHRVEA for a range of high-contrast conditions from various KOPs. It is neither feasible nor required to simulate all potential viewing conditions for BOEM to determine whether individual historic properties would be adversely affected and to accurately characterize the nature of any such adverse effects. The visualizations presented in the HRVEA include five KOPs in the City of Newport and a sixth on Sachuest Point. The KOPs were selected to provide a range of vantages and elevations (e.g., bluffs, coastlines, landscape features) with unobstructed views toward the Project and, therefore, represent views with the greatest scope of change from existing conditions. The visualizations presented in the

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			HRVEA were created methodically to accurately characterize views of the Project from representative viewpoints throughout the APE. Consistent with BOEM's guidance and extensive analyses of visual effects conducted over the previous decade on offshore wind facilities, the VIA and HRVEA contain extensive field photography and visualizations to accurately depict how the Project would appear from vantages throughout the APE. The Project visualizations have been prepared by qualified consultants, and reviewed by BOEM's visual and Section 106 subject matter experts, to best support robust and accurate characterization of Project visibility. BOEM is uniquely experienced in preparing and evaluating visual studies for offshore wind facilities, and has consistently moved to incorporate best practices from ongoing research. BOEM's guidance and requirements are applied sufficiently in the HRVEA, CHRVEA, and VIA for the Project. BOEM's review and consultation on the Project remain ongoing, and BOEM welcomes continued input that will improve its NHPA Section 106 and other regulatory reviews and consultation. Please note that simulations and visualizations are only one supporting aspect of BOEM's analyses for adverse effects to historic properties, including NHLs and TCPs important to Tribal Nations, and not the entire basis of the assessment of effects. The VIA and HRVEAs for the Project provides detail on the fuller contexts of the visual impacts analyses. The VIA, HRVEA, and CHRVEA specifically provide Project simulations from and directly at NHL viewpoints at Newport Cliff Walk and Block Island Southeast Lighthouse and from TCP viewpoints at Massachusetts offshore islands. The NHL supplemental documentation adds visual simulations and information for all 12 NHL locations in the APE. In response to comments, BOEM directed Revolution Wind to produce further simulations that include some cumulative views. The new simulations have multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf
BOEM-2022-0045-0124	4	Cumulative Historic Resources Visual Effects Analysis – Revolution Wind Farm and Revolution Wind Export Cable Project One specific issue that we have with the Cumulative Historic Resources Visual Effects Analysis (CHRVEA) is the application of the criteria of adverse effect to only the 101 historic properties that are determined to be adversely affected by the Revolution Wind project. We understand that "the CHRVEA assesses the Project's [emphasis added] offshore elements' cumulative visual effects… on historic properties when combined with past, present, and reasonably foreseeable offshore wind energy development activities in the APE for the project" (CHRVEA page ii). However, the point at which the Revolution Wind WTGs are added into the array (the second hundred turbines or the eighth hundred turbines, for example), would be relevant in considering an adverse cumulative effect threshold. This would be relevant not only to the historic properties identified in the Revolution Wind APE, but also in other projects' APEs where the effect may have been minimal until that cumulative effect threshold is reached. Additionally, while there is no difference in the regulations of Section 106 between a slight adverse effect and a major adverse effect, the degree of adversity does impact how much mitigation is appropriate or whether an adverse effect is even acceptable with mitigation. The CHRVEA also does not include photographic simulations from enough points, and should include sunrise, sunset, and night views, as well.	In the CHRVEA and BOEM's Finding (in EIS Appendix J), BOEM applies the criteria of adverse effect (at 36 CFR 800.5) in considering cumulative effects to all historic properties identified in the APE. BOEM has determined that cumulative visual effects could occur at the 451 aboveground historic properties identified in the APE from visual impacts from offshore Project facilities. However, BOEM has determined that only when the Project has visual effects that would be adverse would the Project incrementally contribute to cumulative adverse effects. Visual adverse effects from the Project, and consequently cumulative adverse effects, were determined at 101 aboveground historic properties. To reiterate, BOEM has determined with its Finding that where adverse visual effects would result from the Project at historic properties, cumulative visual adverse effects would also result from the Project. The CHRVEA further details the basis of this determination. Where the Project would result in no effect or in no visual adverse effects to historic properties, the Project would not incrementally contribute to the adverse visual effects of other future offshore wind energy developments. This result for this Project would still occur despite whether other offshore wind energy development(s) at these historic properties were determined to have an adverse effect or not. In accordance with the regulations for the NHPA Section 106 Process (36 CFR Part 800), the threshold remains whether the Project would result in no effect, no adverse effect, or adverse effect, regardless of whether the

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			effect is direct, indirect, or cumulative. BOEM defined the APE to consider the direct, indirect, and cumulative effects of the Project. Areas where other future offshore wind energy developments could result in direct, indirect, and cumulative effects on historic properties beyond the APE for the current Project would be a matter for consideration for those other developments and are outside of the scope of the current undertaking. As other offshore wind energy developments are constructed in the Project APE and add to the cumulative effects, the proportion of the visual impacts from the Project may become less in comparison to the cumulative effects of overall offshore development as described in the EIS (Section 3.10) and CHRVEA; however, any effect introduced by the Project would remain its own and would rise to the level of adverse effect as BOEM has determined at 101 historic properties. Analysis of the No Action Alternative serves in part to suggest where effects would be likely or ongoing without the Project, including for cultural resources in EIS Section 3.10. In its cumulative analyses, BOEM has included review of the maximum potential build out of the full lease areas as indicated at CHRVEA Figure 5 and in the insets on the simulation figures in CHRVEA Appendix C. The number of turbines visible from each of the adversely affected historic properties are specified in the CHRVEA analysis and the simulations across the full set of wind energy lease areas offshore Rhode Island and Massachusetts. The CHRVEA analysis informs the EIS cumulative effects analysis for cultural resources in EIS Section 3.10. Additional cumulative visual simulations of future offshore wind developments are available at the Visual Simulations tab on BOEM's website for the Project at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. Cumulative simulations for each Project alternative analyzed in the EIS are also available there. The cumulative simulations include WTG simulations from the Project as well as reasonably foreseeable future wind energy developments. In response to comments, BOEM directed Revolution Wind to produce further simulations that include some cumulative views. The new simulations have multiple updates to the views from Aquinnah Overlook, Aquinnah, Massachusetts including the following: • "Cones of view" to help orient the viewer • South Fork Wind Farm with and without Revolution Wind • Bay State Wind Farm with and without Revolution Wind • Vineyard Wind 1 with and without Revolution Wind • Nighttime views with FAA lighting The photo simulations can be found at BOEM's Project website, here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Panorama Simulations Booklet_MV07_Combined_508.pdf The CHRVEA and other technical reports may indicate, preliminarily, the Project potential for effect on cultural resources, including historic properties as defined under the regulation guiding Section 106 of the NHPA at 36 CFR 800. However, BOEM has produced the Finding (see EIS Appendix J) to provide BOEM's determination of adverse effects pursuant to the undertaking and for consultation under NHPA Section 106.
BOEM-2022-0045-0124	5	Draft Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Connecticut, Massachusetts, New York, and Rhode Island, and the Advisory Council on Historic Preservation Regarding the Revolution Wind Farm and Revolution Wind Export Cable Project [Draft Memorandum of Agreement] Our concerns about the Draft Memorandum of Agreement… (MOA) are related to the mitigation measures spelled out in detail in the various Draft Historic Property Treatment Plans (HPTPs) attached to the MOA. Some of the mitigation measures appear to be unnecessary or low priorities, and we have suggestions for other measures that may be pursued in addition to or replacement of those proposed in the MOA. Our comments are presented by HPTP (in attachment numerical order) below. Attachment 17: The Kay Street – Catherine Street – Old Beach Road Historic District/The Hill; The Ochre Point-Cliffs Historic	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.

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		District; The Ocean Drive Historic District, National Historic Landmark - Newport · Section 2.2.2: 10 properties are listed as being subject to RIHPHC-held historic preservation easements. The RIHPHC currently holds easements on 27 properties in Newport. It is unclear if this list of 10 includes only properties that are within the Revolution Wind project APE. · Section 3.3: The Kay Street-Catherine Street-Old Beach Road Historic District NRHP nomination was updated and accepted by the National Park Service in March 2018. The report should reference this revision, not the original 1973 nomination. · Section 4.1: We are aware that the city is working on guidelines for climate change scenarios and would like to know if Revolution Wind has consulted with the city to ask if this proposed mitigation measure is needed. · Section 4.2: This section states that, "This HPTP proposes the completion of plans to improve overall stormwater drainage for the historic districts…" What is the current status of this effort? · Additional suggestions reflecting preservation needs directly related to these properties include: o Updating the Ochre Point-Cliffs Historic District National Register nomination (written in 1975) o Updating the Ocean Drive Historic District National Register nomination: though rewritten in 2008, that information was not accepted by the National Park Service. The 2008 nomination needs to be updated, new photographs need to be taken, and the information needs to be submitted to the NPS.	
BOEM-2022-0045-0124	6	[Draft Memorandum of Agreement] Attachment 18: The Bellevue Avenue Historic District; Rosecliff; The Breakers; The Marble House - Newport · Section 4.1: The Cliff Walk is already within the bounds of the Ochre Point-Cliffs Historic District. It does not need to be individually listed in the National Register. An update to the Historic District nomination, as suggested above, would include information about the Cliff Walk. · Section 4.2: We understand that an effort is underway to prepare a management plan for the Cliff Walk. How does the proposed resiliency plan fit with the management plan? We are concerned about a duplication of effort, or worse, conflicting documents. Section 1 states that Revolution wind will "provide funding to support" the initiative to prepare a resiliency plan, and section 7 says that Revolution Wind will submit a Final Revised Resiliency Plan. Does Revolution Wind intend to provide support for the project or fund it in its entirety? · Section 4.4: Has the City identified a need for an Invasive Species Management Plan? o Section 1 states that it would be for "the historic properties of the City" – is that city-owned properties, or properties in the city? · These proposed measures are all related to the Cliff Walk, and not to any of the other properties included in this HPTP. The Bellevue Avenue Historic District National Historic Landmark nomination was written in 1976. We suggest preparing an update to this nomination as it would be helpful to RIHPHC and other agencies in future evaluations of historic resources.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	7	[Draft Memorandum of Agreement] Attachment 19: Horsehead/Marbella - Jamestown · Has the owner(s) of the historic property been contacted to inquire if they are interested in or will allow the Historic American Buildings Survey documentation to be prepared?	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	8	[Draft Memorandum of Agreement] Attachment 20: The Abbott Phillips House; The Stone House Inn; The Warren's Point Historic District; Tunipus Goosewing Farm – Little Compton · Section 4.1: Has the town expressed an interest in a Climate Adaptation and Sustainability Plan for Historic Properties? · Section 4.2: Has the town expressed an interest in an Interpretive Exhibit at Goosewing Beach, and specifically in one about climate change? · While these proposed mitigation measures encompass multiple historic properties, they are not specific to any of the properties that will be impacted by the project. We suggest the preparation of Determination of Eligibility/National Register documentation for the	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.

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		Abbott Phillips House, Warren's Point Historic District, and Tunipus Goosewing Farm as additional mitigation measures that may aid in the evaluation of these properties for future projects.	
BOEM-2022-0045-0124	9	[Draft Memorandum of Agreement] Attachment 21: Nine Historic Properties [Bailey Farm; Clambake Club; Paradise Rocks Historic District; Sea View Villa; St. George's School; Indian Avenue Historic District; Whetstone; Land Trust Cottages; The Bluff] – Middletown · Section 4.1: The scope of work includes "Develop an updated historic property inventory, if required." What would trigger the requirement to perform this survey? The RIHPHC's Historic and Architectural Resources of Middletown, Rhode Island: A Preliminary Report was released in 1979. Thus, the last complete survey of historic resources in the town was conducted over 40 years ago. An updated inventory should be completed if this proposed plan is to be comprehensive and successful. · While the proposed mitigation measures encompass multiple historic properties, they are not specific to any of the properties that will be impacted by the project. We suggest the preparation of Determination of Eligibility/National Register documentation for the Paradise Rocks Historic District, Sea View Villa, Whetstone, and the Land Trust Cottages as additional mitigation measures that may aid in the evaluation of these properties for future projects.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	10	[Draft Memorandum of Agreement] Attachment 22: Puncatest Neck Historic District – Tiverton · In the MOA, section xvi, the name of this HPTP is incorrect. · The proposed mitigation measure is not specific to the property that will be impacted by the project. We suggest the preparation of a Determination of Eligibility/National Register documentation for the Puncatest Neck Historic District as an additional mitigation measure that may aid in the evaluation of this resource for future projects.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	11	[Draft Memorandum of Agreement] Attachment 23: Eight Historic Properties [Dunmere; Ocean Road Historic District; Towers Historic District; the Towers; Life Saving Station at Narragansett Pier; Fort Varnum/Camp Varnum; Narragansett Pier MRA; Dunes Club] – Narragansett · Section 4.1: While the Ocean Road seawall does protect historic properties, the proposed mitigation would provide funding only for a plan for its preservation. It seems that other sources of funds, specifically from state and federal emergency management sources, could be utilized for this project, freeing up Revolution Wind mitigation funds for other projects. · Section 4.2: A National Register nomination for Camp Varnum is not needed. The installation has recently been the subject of a thorough documentation. · Are there other preservation projects that are needed in Narragansett? The Narragansett survey report is over 30 years old. Perhaps updated survey work?	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	12	[Draft Memorandum of Agreement] Attachment 24: Block Island South East Lighthouse – New Shoreham · Section 4.1: The determining factor as to whether or not this proposed mitigation is adequate is the amount of funding, which is yet to be established.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	13	[Draft Memorandum of Agreement] Attachment 25: Thirty-one Historic Properties – New Shoreham · Section 4.1: Has the town expressed a need or desire for a coastal resiliency plan? The determining factor as to whether or not this proposed mitigation is adequate is the amount of funding, which is yet to be established. · Section 4.2: We question whether a town/island-wide National Register nomination is feasible. o If the town/island were eligible as a whole, it should be treated as such in this project. This leads us to believe that the project's cultural resources consultant does not believe it is eligible. We know that many buildings on the island are not	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party

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		historic, but we are not aware of the ratio of historic to non-historic buildings. A first step in assessing this would be to compile dates from the assessor's data. o A majority of property owners in the town/island would have to consent to National Register listing. Is there any sense of whether this is likely? o An extensive study of the island was conducted for the formerly-named Deepwater Wind project. Presumably, the information from that study is sufficient for Section 106 assessments in the near future. · The Old Harbor Historic District National Register nomination needs to be updated. If this project is not being undertaken as mitigation for the South Fork Wind project, it should be for this project. · Ten historic districts have been identified as eligible for listing in the National Register. Preparing nominations for these districts is a natural next step that could be utilized as mitigation. However, as the Deepwater Wind survey work was extensive and recent, this may not be the best use of funds. · As there are so many historic resources in the small town of New Shoreham that will be adversely affected by the project, the establishment of a community preservation fund appears to be a fitting mitigation measure for the town. We urge the parties to seriously consider this option in lieu of more survey and documentation work – with the exception of the Old Harbor Historic District update.	(including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	14	[Draft Memorandum of Agreement] Attachment 26: The Browning's Beach Historic District – South Kingstown · Section 4.1: Rather than a context study for the town's summer cottage/resort development, more useful mitigation products would be updated historic surveys of the Green Hill and Matunuck areas to determine if there are National Register-eligible historic districts in either or both locations.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	15	[Draft Memorandum of Agreement] Attachment 27: Eight Historic Lighthouses [including Sakonnet Light Station; Block Island North Light; Point Judith Light; Beavertail Light in Rhode Island] – Massachusetts and Rhode Island · Section 4.1: It is impossible to determine whether or not this proposed mitigation is needed or adequate without knowing more information about what will be provided for each property.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	16	[Draft Memorandum of Agreement] The Historic Context for Summer Cottage/Resort Development mitigation measure is proposed in Attachments 20 (Little Compton), 21 (Middletown), 22 (Tiverton), 23 (Narragansett), and 26 (South Kingstown). Information about this topic is included in each of the towns' RIHPHC survey reports and in some National Register nominations. This is, therefore, not a high-priority need for most of the towns. In all of these HPTPs, it is difficult to evaluate the appropriateness of the proposed mitigation measures without funding values attached to each. There are always more preservation projects to be done, and it would aid greatly in determining whether we want to request additional measures if we knew what the individual measures' values are.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	17	[Draft Memorandum of Agreement] The mitigation measures proposed in the MOA/HPTPs and in our above recommendations are primarily focused on properties that are directly impacted by the project, which is, of course, desirable. However, as we stated in our 27 April letter, since Rhode Island does not have a complete inventory of historic resources and the Revolution Wind team has not attempted to conduct exhaustive ground surveys of the APE, the question as to whether or not all of the historic properties in the APE have been identified remains open. Two gaps exist in the RIHPHC records that could be addressed as mitigation measures: updated surveys and GIS work. · Historic property surveys were mostly completed in the 1970s and 1980s. Since that time, more properties have become	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.

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		eligible for survey, and some that were surveyed have no doubt been adversely altered. We would request that targeted survey work be conducted, based on potentially affected areas, though we would not object to wholesale town-wide surveys. · The RIHPHC has a set of GIS data points that represents the vast majority of properties that are listed in the National and State Registers of Historic Places. However, quality control of that data has not been completed, and is at a standstill due to staffing issues. The RIHPHC would request that a consultant be hired to complete the quality control check and to publish the data on the RIHPHC website and format it for outside users. Both of these projects would enable a more complete and accurate assessment of effects for future projects, including offshore wind facilities. They would be beneficial to towns, state and federal agencies, property owners, project consultants, and the RIHPHC.	
BOEM-2022-0045-0124	18	[Draft Memorandum of Agreement] Attachment 28: Unanticipated Discoveries - Onshore In the "list of contacts" section, remove Timothy Ives and correct "Jeffry" to "Jeffrey".	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	19	[Draft Memorandum of Agreement] Attachment 29: Unanticipated Discoveries – Submerged Please add the document entitled "Rules and Regulations Pertaining to Registration and Protection of Historic Cemeteries" to the attachment, for guidance if human remains are encountered in Rhode Island waters.	BOEM thanks RIHPHC for the detailed mitigation proposals and will continue consulting with RIHPHC and the consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties. Consultation on the MOA, which would be implemented to resolve adverse effects to historic properties, is ongoing. A revised MOA (including revisions to the MOA's HPTP attachments) with all revisions made by BOEM in response to consulting party (including RIHPHC) or public comments will be provided by BOEM in Appendix J of the Final EIS.
BOEM-2022-0045-0124	20	Revolution Wind Farm and Revolution Wind Export Cable Project Draft Environmental Impact Statement [RWF DEIS] The Draft Environmental Impact Statement (DEIS) is based on, and repeats, the conclusions of the above-identified reports. We have addressed most of the particulars of those reports in our 27 April letter and in this letter, so we will not restate those issues here. However, there is one issue of note that is worthy of restating: the sheer number of adverse effects to historic resources that revolution Wind, BOEM, and the RIHPHC agree will occur as the result of this project. Overall, 67 properties in Rhode Island are identified in the HRVEA and the DEIS as potentially having adverse visual effects caused by the construction of the Revolution Wind project. While this number is alarming in its own right, there are constituent numbers that are also significant: · Five National Historic Landmarks are identified as potentially having adverse effects o Of these, two are historic districts, which together contain over 510 individual, contributing resources · 24 properties that are listed in the National Register of Historic Places are identified as potentially having adverse effects o Of these, six are historic districts, which together contain just under 800 individual, contributing resources. The Revolution Wind team has explained that counting each historic district as one property is a conservative approach. We think of it in the opposite: while we recognize that not every property in every district will be adversely impacted, it is likely that more than one in each district will be. It is also worth noting that properties in districts are often overlooked for individual National Register listing consideration because they are already listed, so there are likely more individually eligible properties in the APE than are accounted for. When considering these more comprehensive approaches and totals, the impact of the proposed project on historic properties becomes significantly more alarming.	BOEM directed that the offshore HRVEA be revised following RIHPHC's April 27, 2022, comments on the document, including to further discuss the consideration of historic properties consisting of historic districts, as indicated in BOEM's response to comments provided to NHPA Section 106 consulting parties on August 1, 2022. BOEM also made the revised offshore HRVEA available to RIHPHC and other consulting parties on August 1, 2022. That revised HRVEA provides further historic district descriptions in illustration of historic property types, which provide known counts of historic properties in the identified historic districts. HRVEA Appendix A tables add each district size and percent of each district area intersected by the Project APE. By nature, alternatives and efforts to minimize effects will reduce but not eliminate adverse effects. BOEM will continue consulting with RIHPHC and consulting parties and to involve the public and property owners on the avoidance, minimization, and mitigation of adverse effects to NHLs and other historic properties, including historic districts. This includes considering all measures proposed in consultation on the MOA. BOEM acknowledges RIHPHC's preference for Alternative E. Please also note, Alternative F was carried forward in response to cooperating agency and stakeholder requests for evaluation of WTGs capable of greater than 12-MW capacity. This alternative, however, has been bounded as not to exceed the physical parameters or footprint of the structures as described in the PDE and thus does not propose larger structures. Therefore, in terms of assessing impacts, Alternative F does not consider WTGs that fall outside the bounds of the maximum impacts that could occur from the range of parameters in the COP. In the Final EIS, BOEM has further identified and analyzed its preferred alternative,

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			designated Alternative G. Alternative G: Habitat and Viewshed Minimization Hybrid Alternative (Preferred Alternative) Alternative G (Habitat and Viewshed Minimization Hybrid Alternative), hereafter referred to as the Preferred Alternative, would comprise the construction and installation, O&M, and eventual decommissioning of a wind energy facility including 65 WTGs ranging from a nameplate capacity of 8 to 12 MW and located within 79 WTG positions. The Preferred Alternative allows for the fulfillment of the existing power purchase agreements (total of 704 MW) while eliminating certain WTG locations to reduce impacts to important viewsheds and complex benthic habitats. The Preferred Alternative consists of 21 fewer WTG positions and 35 fewer installed WTGs than the Proposed Action, and maintains a uniform east–west and north–south grid of 1 × 1–nm spacing between WTGs. All applicable EPMs, including micrositing of foundations and cables, would apply as described in the COP. Two of the 65 WTGs have the flexibility to be located in three different spots within the 79 WTG positions. As a result, this alternative includes the analysis of three layouts for installation of the 65 WTGs. This flexibility in design could allow for further refinement for visual resources impact reduction on Martha's Vineyard and Rhode Island, or for habitat impact reduction in the NMFS's Priority 1 area. Additionally, 14 of the 79 WTG positions are "spares" and would only be constructed on a case-by-case basis to accommodate unforeseen siting conditions that render any of the 65 WTG installations impractical in terms of technical feasibility or due to environmental impact or safety concerns (i.e., one of the 65 WTGs could be installed in a "spare" location).
BOEM-2022-0045-0124	21	[RWF DEIS] According to the Revolution Wind reports, all possible minimization measures (such as spacing, paint color, and minimized lighting) have been built into the design of the project. Still, the adverse effects remain. Mitigation measures suggested in the MOA and HPTPs will not mitigate views of the WTGs. They will only provide alternative mitigation, sometimes at the properties that will be adversely affected, and sometimes on other historic properties. One has to ask the question: at what point does the number of adverse effects that the project will have on historic resources reach a threshold that is too much to sacrifice to have the project go forward?	
BOEM-2022-0045-0124	22	[RWF DEIS] BOEM has included in the DEIS alternative WTG layouts within the lease area that would further minimize the impacts of the project and meet the its power purchase agreements while decreasing the number of WTGs that are constructed. In addition to the "No Action Alternative", eight other alternatives to the proposed project are explored in the DEIS. Alternatives C1 and C2, known as the "Habitat Impact Minimization Alternatives," both decrease the number of WTGs in the lease area. However, the particular WTGs that are proposed to be removed are located in the southern half of the lease area, and would not decrease the proximity of the project to the Rhode Island historic properties. The removal of these WTGs may decrease the visual clutter of the project, but any decrease in the adverse effect would be minimal.	
BOEM-2022-0045-0124	23	[RWF DEIS] The "No Surface Occupancy in One or More Outermost Portions of the Project Area Alternative" consists of Alternatives D1, D2, and D3, which could be combined in whole or in part to reduce the total number of WTGs by up to 22. Alternatives D1 and D2 propose removing WTGs that are located on the extreme southern and eastern edges, respectively, of the lease area. While this would reduce the number of WTGs, the effect on the adversely-affected historic properties would be minimal to nil because the reduction would likely be imperceptible due to the remaining number of turbines, all of which are closer to the properties than the removal sites. Alternative D3 proposes to remove up to seven WTGs along the outermost northwest edge of the lease area. This is the row of WTGs that are closest to mainland Rhode Island and some of the closest ones to Block Island, so some visibility would be reduced under this alternative. However, the removal of up to seven WTGs would be a minimal impact reduction with the balance of the up to 100 WTGs still	

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		present. Combining Alternatives D1, D2, and D3 would result in a very minimal impact reduction over Alternative D3 alone, due to the D1 and D2 removals coming on the far side of the lease area from the Rhode Island historic properties.	
BOEM-2022-0045-0124	24	[RWF DEIS] Of the proposed alternatives, Alternatives E1 and E2, known as the "Viewshed Alternative," would result in the greatest reduction in impacts to the historic resources in Rhode Island. Under Alternative E1, up to 64 WTGs would be approved, but the WTGs would have to be 12MW models, the largest that are within the design envelope for this project. The reduction would take place along the northern and eastern parts of the lease area. As proposed (DEIS figure 2.1-17, page 2-52), this reduction would primarily reduce visibility from Massachusetts, East Bay Rhode Island, and Aquidneck Island historic properties and traditional cultural places, though it could extend to the southeastern corner of mainland Rhode Island, as well. The impact reduction to Block Island would be minimal due to the 18 WTGs closest to the island remaining. Alternative E2 would remove the row of WTGs along the outside northwest edge of the lease area and WTGs behind that row (DEIS figure 2.1-18, page 2-53). This appears that it would have a minimal reduction of impact to Massachusetts historic properties and TCPs, but the reduction of impacts to East Bay Rhode Island, Aquidneck Island, and southeastern mainland Rhode Island historic properties would be greater than under any of the other alternatives.	
BOEM-2022-0045-0124	25	[RWF DEIS] Alternative F, known as the "Selection of a Higher Capacity Wind Turbine Generator Alternative," would require utilizing WTGs of up to 14 MW capacity, however, the WTGs must fall within the parameters of the project design envelope. BOEM has not identified any WTGs that fit these parameters. Thus, as we understand, this alternative is not an option.	
BOEM-2022-0045-0124	26	[RWF DEIS] Of the proposed alternatives, Alternative E2 would provide the greatest reduction in visual impacts to the Rhode Island properties that will be adversely affected by the project. It will not eliminate the adverse effects to any of the historic resources. The RIHPHC is in favor of any Alternative that reduces the number of WTGs in the lease area, but Alternative E2 is our preference.	
BOEM-2022-0045-0124	27	All of the reports reviewed by the RIHPHC and discussed above reach the same conclusion, that the Revolution Wind project will have effects on the environment, including adverse effects on significant prehistoric and historic resources. The State of Rhode Island has enacted policies that are supportive of renewable energy and the RIHPHC and historic preservation, in general, are not in inherent conflict with renewable energy goals and the means to meet them. However, other environmental factors, including historic resources, must be fully considered in evaluating whether or not these projects are prudent. We look forward to continued consultation on this important project.	

Demographics, Employment, and Economics

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BOEM-2022-0045-0075	1	Equitable Economic Development & Job Creation BOEM should choose a project alternative that allows for the project to meet the conditions of the project's three Power Purchase Agreements (PPAs), while producing the greatest economic benefit and protecting critical habitat, wildlife, and the environment. Robust socioeconomic analysis is critical to achieve the maximum economic benefits from offshore wind projects. The FEIS should detail, to the greatest extent possible, all anticipated job-creation involving port utilization and development, supply chain and manufacturing of offshore wind components, construction, operations and maintenance, and decommissioning. In addition to salary, information should include health and safety, certifications, training pathways, recruitment and retention plans, project labor agreements and union neutrality commitments if applicable, and commitments and requirements for targeted hire of disadvantaged and underrepresented communities. While some of the details may not be available, the FEIS should reference agreements that are in place, such as the National Offshore Wind Agreement (NOWA) between Ørsted and North America's Building Trades Unions (NABTU) covering all of Ørsted's contractors and subcontractors for construction of the company's offshore wind projects. In addition, the FEIS should update background information regarding state commitments, including Rhode Island's recently passed legislation "Labor Standards in Renewable Energy Projects," which would extend to this project. 8 BOEM should also identify where information is unavailable or incomplete and why.	A reference to Revolution Wind's Project Labor Agreements and its committed funds to train Rhode Island workers for jobs related to Project construction has been added to Section 3.11 Demographics, Employment, and Economics. See subsection 3.11.2.3.1.
BOEM-2022-0045-0060	1	Commenters support the responsible development of offshore wind that incorporates robust environmental mitigation and ensures family-sustaining jobs. The environmental impact statement (EIS) should assess the potential biological, socioeconomic, physical, and cultural impacts that could result from the construction, operations and maintenance, and decommissioning of the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) ("the project"). In particular, we ask that BOEM include a more detailed assessment of the socioeconomic impacts of the project in the final EIS, including impacts on the workforce and environmental justice. Connecticut recognized the importance of the quality, not just quantity, of jobs created in the offshore wind sector when it passed legislation in 2019 requiring offshore wind projects procured by the Connecticut Department of Energy and Environmental Protection (CT DEEP) to pay prevailing wages, negotiate project labor agreements, and explore opportunities for workforce development partnerships. Since the Revolution Wind project was selected in a solicitation that preceded Connecticut Public Act 19-71, An Act Concerning the Procurement of Energy Derived from Offshore Wind Facilities, there is no statutory obligation to develop a project labor agreement or to pay prevailing wages. P.A. 19-71 (Reg. Sess.) However, in its successful Revolution Wind proposal in response to the Request for Proposals from Private Developers for Clean Energy issued by CT DEEP in 2018, which required bidders to "describe the project's use of skilled labor and apprenticeship programs," Deepwater Wind (acquired by Ørsted in 2018) made commitments to Connecticut related to labor, workforce development, and economic development. As these commitments likely contributed to the project's selection by CT DEEP, we expect they will be honored by Ørsted.	A reference to Revolution Wind's Project Labor Agreements and its committed funds to train Rhode Island workers for jobs related to Project construction has been added to Section 3.11 Demographics, Employment, and Economics. See subsection 3.11.2.3.1.
BOEM-2022-0045-0099	1	The Gay Head Light has been a beacon to mariners for over 200 years. Sitting atop of the colorful Gay Head Cliffs it has also attracted visitors for just as long. This historic lighthouse and the sweeping Atlantic views attract thousands of tourists to the small Town of Aquinnah during the summer months. The income that this generates for the Town and the many shops and restaurants on the Cliffs Is vital to the economy of Aquinnah.	Thank you for your comment. The Gay Head Cliffs and the Gay Head Lighthouse are evaluated as part of the cultural resources viewshed resources in Chapter 3.10 of the EIS. Impacts to recreation and tourism are discussed in Chapter 3.18.
BOEM-2022-0045-0116	1	I will say that the registration was a little confusing. I thought I was just registering to be here. So -- but I guess my comments or questions would be, you know, how does this project really benefit the residents of Martha's Vineyard? And I also want to say welcome to our indigenous homeland of Aquinnah, where we've been here for quite some time. So, I guess that's it. That's my question	The benefits of the Revolution Wind project are discussed throughout the EIS. For example, Section 1.2 discusses the purpose and need for the Revolution Wind project, and Section 3.11 discusses the economic contributions of the project. The project will provide clean energy and will generate indirect economic benefits (e.g., jobs), although the geographic distributions of these benefits are not fully known.
BOEM-2022-0045-0113	2	As BOEM works to develop a Final Environmental Impact Statement (FEIS), we urge the agency to ensure the maximum beneficial impacts are fulfilled by employing the following standards to create a high-road, responsibly developed offshore wind industry: • Maximize the creation of quality, high-paying, union jobs over projects lifetime;	Thank you for your comment. BOEM has considered these issues in the EIS and for other policy-making efforts. A reference to Revolution Wind's Project Labor Agreements, which state that all Tier 1 contractors and all subcontractors performing covered construction work on the Project will source labor from Rhode Island local union hiring halls, and

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		• Expand domestic manufacturing along robust domestic, regional, and local supply chains; • Deliver community benefits with attention to improving access to disadvantaged communities;	Revolution Wind's committed funds to train Rhode Island workers for jobs related to Project construction has been added to Section 3.11.
BOEM-2022-0045-0060	2	In addition to stating that Deepwater Wind will seek to create a project labor agreement that ensures local hiring as it did for its Block Island Wind project in Rhode Island, the Revolution Wind developer stated that it would work with the Eastern Connecticut Workforce Development Board and their existing programs. The developer also committed to partnering with city and state officials, as well as other stakeholders, to develop training programs specific to offshore wind that meet the needs of Connecticut's skilled labor workforce. The final EIS should analyze additional details about the project's equitable workforce development plans with the local Building Trades Council and job creation plans, including plans to train and hire local residents and disadvantaged workers: those who are underrepresented in the relevant employment, those who have been formerly incarcerated, and those from low-income ZIP codes. Job creation and workforce development have a clear socioeconomic impact on Connecticut and the region. On a larger scale, it is important to note that Ørsted has executed a memorandum of understanding with North America's Building Trades Unions (NABTU), known as the National Offshore Wind Agreement (NOWA), which includes a project labor agreement to construct the company's U.S. offshore wind farms with an American union workforce. The final EIS should acknowledge the positive socioeconomic impacts of family-sustaining wages and strong labor standards promised by the developer in this agreement. The final EIS should also acknowledge Deepwater Wind and Ørsted's commitments to invest in the New London State Pier to support Revolution Wind and future offshore wind projects and the community and economic development benefits delivered by the Host Community Agreement between Revolution Wind's developers and the City of New London.	A reference to Revolution Wind's Project Labor Agreements and its committed funds to train Rhode Island workers for jobs related to Project construction has been added to Section 3.11 Demographics, Employment, and Economics. See subsection 3.11.2.3.1.
BOEM-2022-0045-0115	2	Thank you. My name is Patrick Crowley, and I am the secretary treasurer of the Rhode Island AFL CIO, as well as the co-chair of climate jobs Rhode Island, a coalition of labor and environmental organizations within the State of Ireland. Thank you for accepting my comments. Today. Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the east coast. As we begin recovering from the unprecedented social and economic impact of the Covid nineteen pandemic. The approval of the Revolution wind project developed by Orsted and eversource will directly lead to the creation of union jobs that come with good pay and benefits as a Union leader. I support offshore wind large-scale utility development, like offshore wind will not only help reduce our massive carbon footprint, but will also mean tremendous amount of economic opportunity in the form of jobs and community benefits My eighty thousand members across Rhode Island believe that the American that Americans should not have to choose between a good job and a clean environment. We can and must have both. The Revolution Wind Project is an opportunity to not only drive the nation's clean energy future, but also create quality family sustaining union jobs. I urge Ba to move forward with the permitting process. Boeham has provided six alternatives for further review. Within those six alternatives there is one that bomb should not consider no action, no action would harm our State's efforts to address climate change, while also eliminating quality job opportunities and sustainable work for hard working local trades people that come with this project. We need a revolution when to be built offshore wind is critical to our future, of our national security, environmental and economic recovery. We urge Boe to stick with its public schedule for the Revolution, win project and put our trades, men and women to work as soon as possible. Thank you very much for your time and consideration.	Thank you for the comment.
BOEM-2022-0045-0114	3	Similarly, the creation of more than $270 milion per year in zero emissions electric power and the creation of thousands of skiiled construction jobs are noteworthy benefits. All of this flows from a multi-billion dollar private invesbnent in a 83,798 acre parcel of leased seabed, the vast majority of which will remain undisturbed by project construction and operation.	Thank you for your comment. Section 3.11 evaluated the potential short and long-term impacts from the proposed Project to demographics, employment, and economics, including job creation. Appendix G provides a summary of the assumptions and methodologies used to generate estimates of the employment impacts of the proposed Project under the alternatives assessed in Chapter 3.11.
BOEM-2022-0045-0060	3	The draft EIS states that port selections for each phase of the project have not yet been determined and lists Connecticut State Pier in New London as one of five sites under consideration for use during the installation phase. This contradicts Ørsted and Eversource's seemingly definitive public statements, including on the Revolution Wind website,that the project will be staged and assembled at State Pier. The developers projected that the State Pier redevelopment itself would create more than 400 construction jobs by the end of 2023 and that the Revolution Wind project would create 80-120 long-term, high-skilled, well-paying jobs at the State Pier. New London, an environmental justice area of concern as noted in the	The analysis in the EIS is based on information provided in the COP. All ports listed in the COP are required to be and have been analyzed in the EIS. The level of detail that the comment is requesting is not provided in the COP.

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		draft EIS, has a high poverty rate and a highly vulnerable population and needs the jobs promised to the community by the developers. As stated in the draft EIS, New London is the only major port between New York and Maine that does not have vertical obstruction and offshore barriers, two factors that are critical for offshore wind turbine assembly. If Ørsted and Eversource are considering a reversal of their commitment to stage and assemble the Revolution Wind project at State Pier, the final EIS should specify why the Port of New London is less suitable than the alternatives. While some developers choose to exploit workers by paying poverty wages that make workers more dependent on government benefits and community resources, good-paying jobs filled by local residents contribute to the entire local economy. Ensuring the jobs created by this project are family-sustaining jobs with dignified wages, benefits, and working conditions will maximize the positive socioeconomic impacts of the project. Revolution Wind's commitment to pay prevailing wages, create a project labor agreement, and support workforce development are not considered in the draft EIS but are important socioeconomic factors that should be included in the final EIS.	
BOEM-2022-0045-0086	3	In addition to supporting the clean energy goals of Rhode Island and Connecticut, the Project will create new high-paying jobs and provide economic and infrastructure improvements to Rhode Island, Connecticut, and surrounding states. Specifically, the Project is expected to result in the creation of over 1,200 direct construction and ongoing operations and maintenance jobs; as well as major investments in infrastructure, including $117.5 million to support port infrastructure redevelopment efforts in both states. Revolution Wind has a Host Community Agreement with New London, CT to provide $5.25 million, or $750,000 annually, to the City for seven years. Combined with other Connecticut Port Authority and Gateway Terminal payments, New London, CT will realize more than $1 million per year for the initial seven-year period. During that time, State Pier will support at least two additional wind farms in the region, which collectively will provide enough clean energy to power more than 900,000 homes in the Northeast. Revolution Wind has selected two regional vessel operators that will partner with Rhode Island shipyards to build crew transfer vessels (CTVs) serving the Ørsted offshore wind farms in the Northeast. Revolution Wind will also host the first-ever U.S. helicopter contract to support offshore wind, operating out of Quonset State Airport.	Thank you for your comment. Section 3.11 evaluated the potential short- and long-term impacts from the proposed Project to demographics, employment, and economics, including job creation. Appendix G provides a summary of the assumptions and methodologies used to generate estimates of the employment impacts of the proposed Project under the alternatives assessed in Chapter 3.11.
BOEM-2022-0045-0113	4	As BOEM works to develop a Final Environmental Impact Statement (FEIS), we urge the agency to ensure the maximum beneficial impacts are fulfilled by employing the following standards to create a high-road, responsibly developed offshore wind industry: Development guided by robust and inclusive stakeholder engagement, including labor organizations, Tribal nations, historically underrepresented or disadvantaged communities, low-wealth communities, communities of color, and impacted ocean users.	Thank you for your comment. BOEM has considered these issues in the FEIS and for other policy-making efforts. A reference to Revolution Wind's supportive programs designed to provide craft-entry opportunities for minorities, women, and economically disadvantaged non-minority males has been added to Section 3.12.
BOEM-2022-0045-0086	4	Revolution Wind is donating to multiple educational initiatives within the area. The Project will contribute $1.25 million to Mystic Aquarium to support critical marine research and protection of wildlife. The Mystic Aquarium funds will also support educational programming and career resources for children and women. The Project will contribute $950,000 for Groton-based Project Oceanology to launch a hands-on, inquirybased Kindergarten through 12th grade Science, Technology, Engineering, and Math (STEM) program focused on climate change, sustainability, energy generation, and offshore wind. Revolution Wind will contribute a $100,000 grant to the Niantic Children's Museum to support the creation of several new handson, STEM-focused exhibits that will help educate and inspire the next generation of scientific leaders.	Thank you for the comment.
BOEM-2022-0045-0113	5	Environmentally responsible development, robust stakeholder engagement, equitable distribution of benefits, and attention to quality job creation domestically are all critical to achieving the goals set out in the OCSLA. The Biden Administration has also reinforced in various executive orders that it is the policy of the federal government to pursue solutions to the climate crisis with attention to union labor, domestic manufacturing, environmental justice, and protection of natural resources. The announcement of the National Offshore Wind Target (NOWT) to deploy 30 gigawatts (GW) of offshore wind by 2030 further underscored this approach. In the White House Fact Sheet containing that announcement, the White House declared: "The President recognizes that a thriving offshore wind industry will drive new jobs and economic opportunity up and down the Atlantic Coast, in the Gulf of Mexico, and in Pacific waters. The industry will also spawn new supply chains that stretch into America's heartland, as illustrated by the 10,000 tons of domestic steel that workers in Alabama and West Virginia are supplying to a Texas shipyard where Dominion Energy is building the Nation's first Jones Act compliant turbine installation vessel. "Federal leadership, in close coordination with states and in partnership with the private sector, unions and other key stakeholders is needed to catalyze the deployment of offshore wind at scale. "…the Administration is taking coordinated steps to support rapid offshore wind deployment and job creation:	Thank you for the comment. A reference to Revolution Wind's supportive programs designed to provide craft-entry opportunities for minorities, women, and economically disadvantaged non-minority males has been added to Section 3.12.

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		1. Advance ambitious wind energy projects to create good-paying, union jobs 2. Investing in American infrastructure to strengthen the domestic supply chain and deploy offshore wind energy 3. Supporting critical research and data-sharing."4 The White House also recently released strategies for "Advancing Equity and Racial Justice Through the Federal Government" as mandated in Executive Order 13985, including action plans for each federal department to fulfill the whole-of-government equity agenda.5 The strategies included in the Department of Interior (DOI) action plan should be integrated in BOEM offshore wind activities and include employment opportunities for historically disadvantaged and low-wealth communities.6 Another White House report, "Worker Organizing and Empowerment" states that union approval is at its highest since 1965, with 68% of Americans approving of labor unions.7 Support rates increase to 74% for workers aged 18 to 24, 75% for Hispanic workers, 80% for Black workers, and 82% for Black women workers.8 The Department of Labor's White House Task Force on Organizing and Empowerment has published guidance for how unions advance equity for underserved populations, including greater transparency around pay and higher wages, greater job security, and increased access to career pathways for women and workers of color.9 In addition to the authority granted to BOEM to facilitate energy development on the OCS, the president also has authority to direct requirements on leases of the OCS and precedent exists for the president to do so. Current BOEM leases of the OCS include lease terms mandated by presidential executive order (EO), specifically Executive Order 11246, which prohibits employment discrimination and establishes affirmative action requirements for nonexempt federal contractors and subcontractors.10 Article II, § 1 of the United States Constitution provides that "executive power shall be vested in" the president. Such power gives the president the right—in the absence of an express congressional declaration to the contrary—to control the terms upon which public lands or property may be sold, leased, or used by private individuals or entities.11 Additionally, the president has been delegated "broad-ranging authority" over governmental procurement under various laws including, for instance, the Federal Property and Administrative Services Act, 40 U.S.C. 101 et seq. which authorizes the president to "prescribe such policies and directives . . . as he shall deem necessary" for the promotion of an economical and efficient system for procurement and supply."12 Furthermore, the DEIS references numerous Executive Orders, including President Biden's Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad." EO 14008 includes the goal of doubling offshore wind by 2030 while creating well-paying union jobs and economic growth; delivering environmental justice; an equitable, clean energy future; and ensuring robust protection for our lands, waters, and biodiversity. In this EO, President Biden also called for a whole of government approach to the climate crisis that will "create well-paying union jobs to build a modern and sustainable infrastructure." The executive order further emphasized that "[t]his Nation needs millions of construction, manufacturing, engineering, and skilled-trades workers to build a new American infrastructure and clean energy economy."13 Specifically, EO 14008 § 204 states: "It is the policy of my Administration to lead the Nation's effort to combat the climate crisis by example—specifically, by aligning the management of Federal procurement and real property, public lands and waters, and financial programs to support robust climate action. By providing an immediate, clear, and stable source of product demand, increased transparency and data, and robust standards for the market, my Administration will help to catalyze private sector investment into, and accelerate the advancement of America's industrial capacity to supply, domestic clean energy, buildings, vehicles, and other necessary products and materials."14 In § 206, President Biden further directed all agencies to "adhere to the requirements of the Made in America Laws in making clean energy, energy efficiency, and clean energy procurement decisions" consistent with Executive Order 14005, "Ensuring the Future Is Made in All of America by All of America's Workers."15 President Biden's February 4, 2022 EO 14063, "Use of Project Labor Agreements for Federal Construction Projects" also demonstrates the importance of utilizing project labor agreements (PLAs) for large-scale construction projects. Specifically, EO 14063 §1b states: "Project labor agreements…provide structure and stability to large-scale construction projects…[and] avoid labor-related disruptions by using dispute-resolution processes to resolve worksite disputes and by prohibiting work stoppages, including strikes and lockouts. They secure the commitment of all stakeholders on a construction site that the project will proceed efficiently without unnecessary interruptions."16 All of these statements make clear that it is the policy of the United States to ensure that all agencies should take action to develop clean energy technologies and combat climate change while also strengthening domestic supply chains and an equitable, high-quality union workforce. To achieve this will require high road employment practices such as PLAs and domestic content requirements and incentives to be solidified into offshore wind lease contracts and permitting activities. PLA's have been proven to reduce project costs for developers, save public funds in the long run, and result in increased economic benefits for the local community.17 In addition, PLAs often lead to safer working conditions as a result of a more skilled workforce. Data suggests that the construction industry is volatile and accidents are more common in states with low-	

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		road contractors.18 Union firms are also 16% less likely to report difficulty in filling open positions, 13% less likely to fail in retaining skilled workers and 21% less likely to report project delays due to retention issues,19 which is key to timely and efficient deployment during construction labor shortages. Also, reports indicate that PLAs decrease the significant gap between expected and realized energy savings in various energy efficiency measures.20	
BOEM-2022-0045-0116	6	Thank you for being here. I have been on School Committee and I'm an Official Man. I'm looking for resources for island children. And if we have something that we can aim at them to participate in looking for employment, looking for opportunities, curriculum frameworks. Okay. That's good. Thank you	Socioeconomic impacts were estimated for the proposed ports and landing locations that would be utilized by Revolution Wind. No proposed ports or landing locations for the Project are located on Martha's Vineyard. Indirect impacts of Revolution Wind on communities that are not directly affected by the project are not fully known. Impacts that could affect Martha's Vineyard are discussed in Chapter 3.9 Commercial Fisheries and For-Hire Recreational Fishing, 3.16 Navigation and Vessel Traffic, 3.18 Recreation and Tourism, and 3.20 Visual Resources. For more information about Renewable Energy please see BOEM's website https://www.boem.gov/renewable-energy, for specific state activity projects and project status see this website: https://www.boem.gov/renewable-energy/state-activities.
BOEM-2022-0045-0115	7	good afternoon. Can you hear me? Yes, we can and that has been set by others. I mean the offshore wind in the industry. Sectors will provide great economic opportunity in the Us. As it will create the good industrial construction on service jobs, and my company is a tangible example of such benefits. As an example. You know, we have invested by of twenty four. We will have invested sales of three hundred million dollars to transform one of our unusual facility, one which, as of two days employing two hundred and twenty industrial team people in any sort of the jobs. This investment for the offshore. We set up at one hundred and sixty American jobs, and this investment was made possible for two reasons: one because we sign up with a trade agreement five years back, with our share to produce up to six hundred miles takes for cable for the up from the Us. And elsewhere last week make sense that I should have announced that we will be the one providing the cable for the reduction in project and today my testimony is about to express the fact that we support the evolution win project for the economic impact. The positive economic impact has in the Us. Uh. We have that such process need to provide clarity and certainty to the supply chain, because without certainty and clarity no investment can happen. We are pioneer, but we hope that others are going to invest in the Us. Or we propose existing facilities and create additional jobs. And this for Jobs construction jobs, and also marine jobs: Without such predictability, such investment will not be able to happen. We appreciate all the effort that governments put in this process. We do not have particular, I think, thought about the different identity but one. We urge them to not consider the new action alternative as it would first slow down the energy transition from harmful source of energy to environmental, friendly source of energy. And so again, it will send a shield into the industry and slow down the creation of jobs that this industry will be able to create if it is allowed to move forward again, make sense, would like to rotate, to support the Revolution for refuge and win project. And We thank you for your time and your consideration.	Thank you for the comment. Section 3.11 evaluated the potential short- and long-term impacts from the proposed Project to demographics, employment, and economics, including supply chain. Appendix G provides a summary of the assumptions and methodologies used to assess impacts of the proposed Project and alternatives in Chapter 3.11, including supply chain effects.
BOEM-2022-0045-0113	9	High Road Labor Standards & Domestic Supply Chain The DEIS estimates that the project will create between 3,856 and 4,976 full time equivalents (FTEs) depending on the alternative that is selected.31 The Large Wind Turbine Generator (WTG) Maximum Capacity Project that would construct 73 12-MW WTGs would have the greatest beneficial job creation and economic impact potential. According to the DEIS, this scenario is expected to generate nearly $536 million in value-added production to the combined gross domestic product (GDP) of Rhode Island and Connecticut.32 However, details regarding the job creation and economic benefits of the project are only vaguely described. The DEIS states: “Most of the direct construction-related jobs generated by the Proposed Action would occur in the communities where the ports used for staging and fabrication are located. Most of the direct jobs would occur during engineering and construction of onshore and offshore wind energy facilities, while most of the indirect jobs would occur during wind energy component fabrication, storage, and transport…Under the Proposed Action, construction is expected to occur within a 1-year period, but preconstruction activities such as design/engineering and component manufacturing and fabrication could lengthen the period an additional year. Where possible, local workers would be hired to meet labor needs for construction.”33 The DEIS also states that although NREL’s Jobs and Economic Development Impacts Offshore Wind Model (JEDI-OWM) cannot differentiate between economic impacts generated from onshore activities versus offshore, it can be inferred that most of the engineering and construction of both onshore and offshore facilities are included in direct jobs, while most of the component	Thank you for the comment. Additional information on the types and proportions of anticipated direct and indirect jobs has been added to the Demographics, Employment, and Economics Section of Appendix G.

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		manufacturing, storage, and transport are included in the indirect jobs. Other job categories outlined in the DEIS include technician-level workers in 1) production roles, particularly high-value manufacturing positions; 2) installation and commissioning positions; 3) vessel and offshore equipment operation; and 4) commissioning and testing turbines, cables and substations.34 BVG Associates, which outlined these occupations in their 2017 report referenced in the DEIS, notes that many of these jobs will be created in industrialized coastal areas that have suffered from economic decline in recent years.35 The DEIS also notes that where possible, local workers would be hired to meet labor needs for project construction, operations and maintenance (O&M) and decommissioning. We urge BOEM to provide more information on the types of jobs that will be created through this project in the FEIS, including any commitments that Revolution Wind has made to utilize domestic content and project labor agreements. This information can supplement the NREL JEDI-OWN which doesn't contain recent developments regarding U.S. offshore wind component manufacturing and fabrication. As we described previously in this comment, maximizing the creation of manufacturing jobs across a domestic offshore wind supply chain is key for this industry to fulfill its economic benefit potential. The DEIS should contain all plans that Revolution Wind has for utilizing domestic content, be it in the New England region or elsewhere. If we can infer that indirect jobs include component manufacturing, storage, and transport, the DEIS should at a minimum provide estimates for how many jobs from each category could be expected within the estimated 1,623-2,265 indirect jobs listed in Table 3.11-9. It is imperative that the DEIS reflect accurate information regarding socioeconomic impacts of the project to ensure accountability that positive benefits are realized.	
BOEM-2022-0045-0115	9	Thank you, and thanks for all the hard work that your agency is doing for creation of this environmental impact statement for revolution win. We are fully in support of the Revolution Win Energy Project. I am the executive Director of the North Kest Town Chamber of Commerce. The North Kingsstown Chamber of Commerce is one of Rhode Island's leading business membership and trade organizations located in northeast down Rhode Island. That includes the quantit business park that employs more than ten thousand people within over two hundred businesses quantit the home to Port Davisville has served as a staging storage and assembly area for wind turbine equipment, and continues to serve the offshore wind industry Today, while offshore wind is a developing industry for the United States. It is a proven industry that began right here in Rhode Island with the Block Island Winds Park. Now we're looking to continue the momentum with revolution. Wind Project Revolution wind is making investments in our ports, workforce training institutions of higher education and creating opportunities for businesses in the local supply chain. We need revolution wind to be built. We appreciate Oem's careful consideration of the revolution. Win project, and understand that Oem six alternatives for further review. Within those six alternatives there is only one that they should not consider no action without action. Rhode Island will not realize revolution wins tremendous potential to create jobs and grow the local supply chain revolution wind is good for Rhode Island's economy and the region's environment. I urge you to approve this project and keep our state momentum going. Thank you.	Thank you for your comment. Section 3.11 discusses the economic contributions of the Revolution Wind project.
BOEM-2022-0045-0116	9	Roxane Ackerman; what are the opportunities for Martha's Vineyard to have a benefit? And all the electricity doesn't go past us, that it comes directly to us. It seems to me, if you go through Rhode Island, and then is that -- are we talking about the (inaudible)? And then, we've offered our locale. Is there any benefit? Thank you	The benefits of the Revolution Wind project are discussed throughout the EIS. For example, Section 1.2 discusses the purpose and need for the Revolution Wind project, and Section 3.11 discusses the economic contributions of the project. The project will provide clean energy and will generate indirect economic benefits (e.g., jobs), although the geographic distributions of these benefits are not fully known.
BOEM-2022-0045-0113	10	In terms of construction, Revolution Wind reported in 2021 that a PLA was reached between Ørsted, Eversource and Rhode Island Building and Construction Trades Council to transform Prov Port into a regional offshore wind hub and build an advanced foundation component facility to support the assembly of the developers projects in the Northeast.36 Earlier this year, Ørsted and North America's Building Trades Unions (NABTU) announced a National Offshore Wind Agreement (NOWA) covering all of Ørsted's contractors and subcontractors that will construct offshore wind projects.37 Ørsted's announcement states: "A first-of-its-kind in the United States, the National Offshore Wind Agreement (NOWA) sets the bar for working conditions and equity, injects hundreds of millions of dollars in middle-class wages into the American economy, creates apprenticeship and career opportunities for communities most impacted by environmental injustice, and ensures projects will be built with the safest and best-trained workers in America."38 These agreements have significant impacts on the quantity and quality of offshore wind careers and help ensure there is equitable access. Furthermore, they ensure there is the skilled workforce available to complete the project safely and efficiently. The DEIS notes that offshore wind projects will create a demand for workers skilled in the professions and trades needed for the design, construction, and O&M of offshore wind facilities.39 Including information in the FEIS related to a skilled workforce and domestic supply chain is strongly aligned with	Thank you for the comment. Text has been added into Appendix C (Incomplete or Unavailable Information Analysis for Resource Areas).

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		federal statute as explained in the above section. Furthermore, Rhode Island recently passed legislation "Labor Standards in Renewable Energy Projects," requiring all responding bidders on renewable energy projects at 3 MW of capacity or higher valued at $5,000,000 or more to have an approved apprenticeship program for all crafts or trades with apprenticeship programs that will be employed on the project at the time of the bid.40 Both Rhode Island and Connecticut have underscored the importance of building local and domestic supply chains to maximize job creation and economic benefit for their states. Information such as this, including but not limited to provisions in the PPA's related to labor standards, equity, supply chain, and economic development should be included in the FEIS. As the DEIS notes throughout, there are several components of the project that have not been determined yet and as such, the economic impacts cannot yet be determined. BOEM should identify these unknowns in the FEIS, including those related to supply chain and workforce contracts.	
BOEM-2022-0045-0115	10	Yes, I'm. Just an individual Martha's vineyard. Unlike our reputation, we're the poorest county in Massachusetts, and I'm. Concerned that i'm just wondering if there's any policy going forward as we have more and more power. Is there any policy going forward that would guarantee any limit on the cost of electricity for the area around the well, for anybody, for that matter, around the area that's affected by the installations? That's my one question and the other question I have: is Is there any educational campaign possible, or in the works? Or is anybody considering any educational campaign that would reduce consumption? It seems to me, as you go along with the increase in alternative energy. Thank you.	Electricity rates are managed by state and regional energy authorities, and Power Purchase Agreements (PPAs) are negotiated between states and project developers. BOEM does not have authority over PPAs or electric rates. As noted in the DEIS, Section 1.2, Revolution Wind's goal to construct and operate a commercial-scale offshore wind energy facility in the Lease Area is intended to fulfill the following three PPAs: 1. a 200-MW contract with the State of Connecticut approved in January 2019; 2. a 400-MW contract with the State of Rhode Island approved in June 2019; and 3. a 104-MW contract with the State of Connecticut approved in December 2019. The Department of Energy's Office of Efficiency and Renewable Energy offers information on energy efficiency initiatives: https://www.energy.gov/eere/office-energy-efficiency-renewable-energy Socioeconomic impacts were estimated for the proposed ports and landing locations that would be utilized by Revolution Wind. No proposed ports or landing locations for the Project are located on Martha's Vineyard. Indirect impacts of Revolution Wind on communities that are not directly affected by the project are deemed outside the scope of the EIS. Impacts that could affect Martha's Vineyard are discussed in Chapter 3.9 Commercial Fisheries and For-Hire Recreational Fishing, 3.16 Navigation and Vessel Traffic, 3.18 Recreation and Tourism, and 3.20 Visual Resources.
BOEM-2022-0045-0116	10	Hi, Anthony Lefeber. I live here in Aquinnah, as well. This is a really good point, seeing as Martha's Vineyard doesn't get all the visual impact of this. Who is going to assure that benefits come back to the island, both in terms of education, employment, environmental protections, and so forth? I think that's an excellent point and really important to the island. Thank you.	The benefits of the Revolution Wind project are discussed throughout the EIS. For example, Section 1.2 discusses the purpose and need for the Revolution Wind project, and Section 3.11 discusses the economic contributions of the project. The project will provide clean energy and will generate indirect economic benefits (e.g., jobs), although the geographic distributions of these benefits are not fully known.
BOEM-2022-0045-0065	15	The DEIS fails to address the impacts that the Revolution Wind project will have on small businesses, which will include the vast majoring of fishing companies and supporting businesses. As recommended by the U.S. Small Business Administration, BOEM must conduct a Regulatory Flexibility Act (RFA) analysis of its proposals, including this DEIS, to adequately understand the impacts of offshore wind development activities on small businesses.23 Improved data and analyses of impacts to commercial fishing businesses, port operators, marine equipment retailers, onshore processors, fish markets, and other fishing industry representatives, should inform mitigation strategies.	Thank you for your comment. Text has been added to Section 3.9 in the FEIS describing the percentage of commercial and for-hire recreational fishing operations that engaged in fishing in the Lease Area from 2019 to 2021 that were small businesses as defined by the Small Business Administration.
BOEM-2022-0045-0086	82	Page 3.11-13, Table 3.11-5: The footnote to Table 3.11-5 should specify which version of the JEDI-OSW model was used to produce these estimates. If they were produced using both the 2017 and 2021 versions of the model, the table should be updated to use the 2021 version. We also recommend including a discussion of the reason that the number of jobs shown in Table 3.11-5 varies by year.	A footnote has been added to the text preceding the Table referenced in the comment. The footnote documents the two versions of the JEDI OSW model used (Version 1.05.2017 and Version 2021-2). These two versions are cited in the table source notes for all of the tables that utilize the JEDI OSW models as (NREL 2017, 2021).
BOEM-2022-0045-0086	83	Page 3.11-26, Table 3.11-9: It should be clarified that Table 3.11-9 provides estimates of Jobs, Earnings, Output, and Value Added specifically in Rhode Island and Connecticut.	Table captions have been changed to indicate that jobs, earnings, output, and value added accrue to Rhode Island and Connecticut during construction; and to Rhode Island during operations and maintenance.
BOEM-2022-0045-0086	91	Appendix G states "if Guidehouse were to run a comparison of an 800-MW project and the 712 MW project, changing only the total project capacity by changing the number of WTGs and holding all other factors constant, the results would be remarkably	Thank you for the comment. Text in Appendix G has been edited.

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		similar as those shown below." That statement would be true if "holding all other factors constant" were changed to "holding all $ per kW ratios constant".	
BOEM-2022-0045-0086	92	Appendix G, Table G-38: A discussion should be added as to why the numbers in Table G-38 vary so widely. Revolution Wind feels that the results would be more accurate if BOEM used the JEDI model (2021 version) with the updated data and MW sizes instead of scaling from the base case.	Thank-you for the comment. The information with respect to operations and maintenance in Tables G-37 and G-38 has been corrected, and the differences are generally smaller than presented in the DEIS. Given the proportional nature of the results for operations and maintenance impacts, these corrections have no impact on the results presented in FEIS. Because of structural differences between JEDI-OSW V1.05.2017 and JEDI-OSW V2021-2, in particular the fact that Revolution Wind is presumed to have provided project-specific inputs to Guidehouse for it baseline work within JEDI OSW V1.05.2017, BOEM has determined that the methodology used to estimate economic impacts is appropriate.
BOEM-2022-0045-0086	93	Appendix G, Table G-38: Revolution Wind suggests clarifying how the calculations were developed. Specifically, how was 4,009 acres of seafloor disturbance from inter-array cable and export cable within the tourism GAA calculated. Given the following acreages, a total of 3,785 is obtained: IAC = 2,361 acres; RWEC-OCS = 593 acres; and RWEC-RI = 731 acres.	Thank you for your comment. While the comment references Table G-38, the subject of Table G-38 does not include the number of acres of seabed disturbance. Since the publication of the DEIS, RW has provided BOEM with updated calculations for seafloor disturbance relative to IAC systems per alternative. This information is included in Chapter 2, Section 2.1.2 and 2.1.7.
BOEM-2022-0045-0086	100	As stated in Section 3.11.2.2.3, the Proposed Action, when considered in combination with past, present, and other reasonably foreseeable projects, actually has long-term minor beneficial impacts on demographics, employment, and economics. The text and comparative impact tables should emphasize that conclusion rather than the adverse impacts that will occur either with or without the Proposed Action.	Thank you for the comment. BOEM believes that the text in Table 3.11-5 appropriately summarizes the impacts of the proposed action.

Essential Fish Habitat (EFH) and Finfish

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BOEM-2022-0045-0098	2	In 12.3-Effects of particle motion, they were very clear, much more must be done to determine how particle motion effects all. "It is now clear that fishes are primarily detectors of particle motion and relatively fewer species of fish use sound pressure. Thus, criteria and guidelines must be developed in terms of particle motion as well as sound pressure. Yet, very little is known about hearing sensitivity to particle motion and it is imperative that such data be obtained. Concurrently, it is imperative to measure the signal from anthropogenic sources in terms not only of sound pressure, as now done, but also in terms of particle motion." Using a 30 MW "pilot" project such as the Block Island Wind Farm, that often was not working at even 25 percent of its capacity, to draw conclusions for larger projects like the 704MW Revolution Wind project is basically arbitrary, and without a basis in recent, factual information. We hereby request a thorough analysis of the effects of survey and construction work of the Revolution Wind farm and cable laying as it relates to particle motion and those fish and invertebrates species that would be affected, not only by the actual construction work, including pile driving but also that which relates to UXO's within the wind lease area, and all cable laying activities such as jet plowing, jet trenching and boulder ploughing. It must be fully analyzed within BOEM's statement "As stated, ongoing monitoring studies at European wind facilities and the Block Island Wind Farm in the United States provide a useful basis for evaluating the combined effects of these IPFs on the biological community as a whole, even if effects on individual species cannot be predicted with specificity. On balance, the current scientific information is sufficient to support sound scientific judgements and informed decision making because relevant studies monitoring changes at wind farms have not observed significant changes to finfish over years of study," is wholly inaccurate, because the level of build out in Europe at present and in the US utilized thus far is predicated on far smaller turbines in Europe and BIWF than the full build out planned for the Revolution Wind and cumulatively BOEM's Atlantic Seaboard leases. As such, LICFA would request a full analysis of the cumulative impacts of full buildout throughout the Atlantic with 12-15 MW turbines as such are slated for the multitude of lease areas that are slated to be approved by 2023.	Thank you for your comment. The EIS has been updated with additional analyses related to how particle motion stemming from construction-related activities (i.e., seabed preparation/cable laying, pile driving, UXO detonation, and HRG surveys) would impact finfish. BOEM recognizes that there is limited information available regarding particle motion effects to finfish and invertebrates and has funded ongoing studies to help fill this knowledge gap (see https://www.boem.gov/sites/default/files/documents//BOEM-ESP-AT-17-02.pdf and https://www.boem.gov/sites/default/files/documents//BOEM-ESP-AT-20-01.pdf). New information obtained through BOEM-funded research will be used to inform future decisions. The impact analyses of particle motion to finfish stemming from operation and maintenance activities, such as operating wind turbines (see Chapter 3.13.2.2.2), and the analyses assessing the impacts from other planned OSW projects in the region (see Chapter 3.13.2.3.3) used the best available science to inform those analyses.
BOEM-2022-0045-0046	2	I am also not clear about what specific fish habitat will be impacted and what the potential long term benefits may be to the fisheries? Were long term benefits factored into the calculations in the EIS? These wind farm areas can create de facto protected areas which can provide refuge to fisheries and ultimately improve fish populations.	The potential benefits of reef effects resulting from presence of structures are considered in the DEIS. Considering the current lack of large-scale, offshore wind farms in the Northwest Atlantic (aside from the small, fiver turbine Block Island Wind Farm), we do not currently have information to support the wind farms in this region will act as de facto protected areas. Recreational fishers do target the area around the BIWF site so it is reasonable to conclude that they may also fish in and around the RWF. Further, commercial fishing activity could still occur within offshore wind farms; although the use of some gear types may be more feasible than others.
BOEM-2022-0045-0046	3	I also don't understand how this would negatively impact cod spawning? Other than the development phase which could be done outside of cod spawning season, these fish aggregate and release spawn. How would structures in the water a mile apart impact this behavior?	The WTGs generate underwater noise at low-frequencies that overlap the grunts used by cod to co-locate during spawning. Operational noise could potentially interfere with this communication in the vicinity of the foundations, however the extent and significance of this effect is not currently known.
BOEM-2022-0045-0069	4	Conduct comprehensive fisheries resource monitoring surveys consistent with the recommendations outlined by the Responsible Offshore Science Alliance (ROSA): https://4d715fff-7bce-4957-b10baead478f74f6.filesusr.com/ugd/99421e_b8932042e6e140ee84c5f8531c2530ab.pdf. o These surveys should address concerns related to biological impacts associated with pile driving and operational noise, habitat loss and creation, sedimentation, electromagnetic fields, and cumulative impacts. o Surveys should include as many years as possible for data collection during pre, during, and post construction phases of the project to best characterize the environmental impacts.	Thank you for your comment. Revolution Wind developed a fisheries and benthic habitat monitoring plan (dated October 2021) that has been prepared in accordance with recommendations set forth in BOEM's "Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf" Pursuant to 30 CFR Part 585 (BOEM 2019) and has committed to conducting preconstruction, during construction, and postconstruction surveys and monitoring as part of the Proposed Action. The monitoring plan can be found at the following link: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/App_Y%20Fisheries%20Research%20and%20Monitoring%20Plan.pdf). In addition to BOEM's guidance, the fisheries and benthic monitoring plan was developed using monitoring guidelines as part of The Rhode Island Coastal Resources Management Council's "Rhode Island Ocean Special Area Management Plan" (Ocean SAMP; RICRMC 2010). The FMP was also developed

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			through an iterative process, whereby survey protocols and methodologies were refined and updated based on feedback received from stakeholder groups. Stakeholder groups involved in this process included NOAA, NMFS, BOEM, Rhode Island Coastal Resources Management Council, Rhode Island Department of Environmental Management (Division of Marine Fisheries), Massachusetts Division of Marine Fisheries, Massachusetts Office of Coastal Zone Management, and representatives from the Responsible Offshore Science Alliance and the Responsible Offshore Development Alliance. Revolution Wind has developed a fisheries and benthic habitat monitoring plan (dated October 2021) that has been prepared in accordance with recommendations set forth in Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585 (BOEM 2019).
BOEM-2022-0045-0086	5	The hard substrate habitats created through the placement of the wind turbine generator (WTG) foundations will result in artificial reefs for a more diverse community of finfish and invertebrates in the offshore lease area.	Thank you for your comment. These "reef effects" are acknowledged and addressed in the DEIS analysis.
BOEM-2022-0045-0100	6	The project substantially overlaps with extensive highly complex and diverse habitats on Cox Ledge as well as known spawning activity for Atlantic cod, a species of biological, ecological, economic, and cultural significance to this region. In June 2022, the New England Fishery Management Council approved a new habitat area of particular concern (HAPC) that overlaps with the Revolution Wind Project. This action was approved to protect complex habitats and cod spawning habitats from negative impacts associated with offshore wind development. While we recognize information related to the new HAPC designation, complex habitats on Cox Ledge, and Atlantic cod spawning activity was added since our PDEIS review, the analysis of impacts to these resources includes inconsistent and inaccurate habitat calculations with limited details, and appears to conflate the new HAPC for complex habitats with cod spawning habitats. Further, there are missing analyses and the DEIS lacks support for conclusions related to adverse impact determinations. For example, while there are multiple activities included under seabed preparation that would occur within known cod spawning aggregations, including boulder plows, grabs, and grapple runs required to clear the cobble/boulder habitats on Cox Ledge, there is no analysis of impacts from seabed preparation on Atlantic cod spawning activity. Further, these activities would result in a substantial alteration of highly complex cobble and boulder habitats on Cox Ledge. The significance of these proposed alterations, in the context of the regional setting of Cox Ledge, is not addressed in the document. We disagree with BOEM's assessment that impacts to benthic habitats, finfish, and EFH would be minor to moderate; this conclusion is not supported by the text in the document, and is not consistent with the best available or most current science.	Comment noted. The analysis has been refined to incorporate a more detailed characterization of impacts to complex habitats on Cox Ledge (including impacts due to seabed preparation) and Atlantic cod spawning activity to support conclusions. Additionally, the EIS has been revised to be consistent with revisions to the EFH document, including EPMs/Mitigation Measures.
BOEM-2022-0045-0065	6	Fisheries research plans provide little value if not coordinated among OSW projects in a region.	Comment noted.
BOEM-2022-0045-0100	7	The DEIS does not include an analysis of all reasonable mitigation measures we suggested for your consideration to help minimize impacts to cod spawning activity. For example, we identified a time of year restriction for construction activities to protect spawning cod, yet this has not been analyzed. Rather, it suggests a pile-driving time of year restriction for the North Atlantic right whale is sufficient to protect cod, which is contrary to the best available science, including the most recent studies in this area1, as the time of year that cod spawning occurs on Cox Ledge (November - April) does not entirely overlap with the January - April right whale pile driving restriction. Furthermore, BOEM is suggesting that acoustic monitoring for cod during the spawning season to trigger mitigative action is sufficient to protect spawning activity; this is based on assumptions of detection success with an unproven and untested method2. We have concerns that adverse impacts to spawning activity for Atlantic cod and a reasonable range of mitigation measures to reduce impacts are not fully analyzed in the document.	Comment noted. The EIS has been revised to be consistent with revisions to the EFH document, including EPMs/Mitigation Measures.
BOEM-2022-0045-0100	8	NMFS considers the proposed action to have unmitigated major adverse impacts to EFH and Atlantic cod as the proposed action includes full build out of the lease area, including Cox Ledge, and the proposed mitigation measures would not protect Atlantic cod spawning. Based on our review of the proposed action, we anticipate project and regional-scale adverse impacts to habitats on Cox Ledge and population-level impacts to Atlantic cod in Southern New England; by BOEM's definition, this is a major adverse impact to benthic habitat, finfish, and EFH.	Comment noted. BOEM evaluated the analysis structure and level of detail and made updates consistent with revisions to the analysis presented in the EFH document. New scientific information proposing a change in cod stock status has been reviewed and incorporated into the FEIS, however, at this time the cod occurring in Southern New England are being managed as a component of a larger stock complex and not an independent metapopulation. BOEM does not agree that the anticipated impacts to large-grained complex and complex habitat and related habitat features would result in regional-scale effects of

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			the type described. In the two habitat zones comprising most of the concentrated complex habitats and cod spawning activity in the Lease Area, the potential footprint of long-term to permanent habitat impacts constitutes just 3 to 5 percent of the available habitat. When impacts to soft-bottomed habitat are removed, the impact footprint constitutes less than 3 percent of available large-grained complex and complex habitat. Moreover, these habitats would eventually recover with mitigation (i.e., the decommissioning and removal of the project). These impact area percentages do not account for available habitats outside the lease area, which are also used by cod for spawning as is evident in recent survey data. On this basis, the combined effects to benthic habitat and to Atlantic cod do not satisfy criteria for a major impact.
BOEM-2022-0045-0069	8	The RIDEM Division of Fish and Wildlife prohibits any in-stream work from March 1 to July 1 to protect the in-migration of anadromous species including alewife (Alosa pseudoharengus), blueback herring (Alosa aestivalis), and American shad (Alosa sapidissima). While the project does not include work instream, construction along the export cable corridor has the potential to affect fish staging to enter the riverine systems during their migration. The Division of Fish and Wildlife recommends that work through this corridor does not take place from February 15 through July 1 to allow the anadromous migrations to take place unimpeded. The Division also limits in-stream work during juvenile out-migrations from September 15 until November 15. However, if the project can demonstrate there will be no entrapment or entrainment of juvenile out-migrants, the Division may reconsider its fall restriction during application review.	Comment noted. Clarified that timing restrictions will be imposed through the permitting process and Revolution Wind will adhere to those restrictions. See Appendix F for details.
BOEM-2022-0045-0100	11	During our review of the PDEIS in May, we highlighted several analytical issues that we recommended be addressed prior to publication of the DEIS. Unfortunately, we found that several of the analytical comments we made during that review have not been addressed in this latest draft. In addition to addressing the comments herein and in the attached spreadsheet, we recommend additional review of our PDEIS comments so these issues can be resolved in the FEIS. Support for Conclusions and Use of Best Available Science: Consistent with comments raised on the PDEIS, in many instances, the DEIS fails to incorporate and consider the best available scientific information to support impact determinations. This results in mischaracterization of both NOAA trust resources and project impacts to those resources. While the DEIS includes some additional discussion of resources, the document is not comprehensive and does not apply those findings to an examination of the proposed action and alternatives. As a result, conclusions in the document related to impact determinations lack supporting rationale. An example of this is the analysis of impacts from oceanographic wake effects and hydrodynamic changes from the presence of structures. The DEIS appears to exclude all existing peer-reviewed literature related to oceanographic wake effects from offshore wind projects, basing the analysis solely on the Johnson et al. 2021 report, which has not been peer reviewed. While the lack of peer review is not necessarily determinative of whether a paper may be considered part of the best available scientific information, our Northeast Fisheries Science Center has reviewed this report and identified several flaws, including poor model skill, weak model validation, an over-emphasis on mean values, and an inappropriate interpretation of model results as they apply to fisheries. Nevertheless, this single source is used in the DEIS as justification to dismiss impacts from oceanographic and atmospheric effects to fisheries and other NOAA trust resources. The recent Synthesis of the Science white paper, a technical report co-led by BOEM, NOAA, and RODA, addresses hydrodynamic impacts and includes the findings of Johnson et al. 2021 alongside peer-reviewed literature. The best available science suggests that wind wakes may have broad-scale effects on biological and physical oceanography with implications for all trophic levels; this contrasts with the conclusion reached by the analysis in the DEIS. The best available science should be incorporated into the FEIS.	Comment noted. BOEM evaluated the analysis structure and level of detail and made updates consistent with revisions to the analysis presented in the EFH document. The analysis considers the framework provided by van Berkel et al. (2020) for evaluating hydrodynamic effects from OSW development, which incorporates the state of the science synthesis that is referenced. BOEM has revised the FEIS to include new scientific information related to hydrodynamic effects from wind farms in Europe. However, as summarized in the FEIS, the bulk of this research is from windfarms located in different oceanographic environments that are more susceptible to hydrodynamic effects on stratification and water column mixing than those present on the mid-Atlantic OCS.
BOEM-2022-0045-0110	15	The Draft EIS provides a relatively detailed and accurate assessment of the anticipated impacts to benthic resources, invertebrates, finfish, and essential fish habitat (EFH). In our scoping comments, we recommended that BOEM provide a specific analysis of impacts to Atlantic cod and other species of concern; we appreciate that BOEM has emphasized the impacts to Atlantic cod throughout the Draft EIS.42	Comment noted. No changes required to EIS.
BOEM-2022-0045-0116	15	And once we are -- we don't know about the siltation of when these turbines are placed into the ocean. Where is that going? How is that going to affect the fish? I know there are closed periods. However, we still need to be careful. Right now, we have the bass derby going on. Is that going to affect that, when -- if that is, indeed, when the construction time happens? What about our herring run in the spring? Well, that's the spring and the fall. That leaves the summer and that's when the whales are here.	The WTG and OSS foundations would include scour protection to minimize erosion, therefore little if any suspended sediment generation is expected once the project is operational. The primary suspended sediment generating activities would occur during construction and are seabed preparation and boulder clearance for cable installation and operation of the jet or mechanical

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			plow during cable installation. The DEIS provides a detailed analysis of potential sediment effects on invertebrates in Section 3.6.2.3.2, with quantification of the area affected by suspended sediments in Table 3.6-8. Section 3.13.2.2.1 provides an assessment of suspended sediment effects on finfish based on this analysis.
BOEM-2022-0045-0071	16	Time of year restrictions should be considered to reduce impacts to cod spawning. The DEIS suggests that a glider may be used to detect cod spawning aggregations by listening for cod grunts. This alone is not a protective measure. The detection range of gliders is short, on the order of hundreds of meters, so if cod do not coincide with the glider path in space and time, their presence may be missed. In addition, it is possible that cod will not aggregate due to construction activities, and their vocalizations may therefore be reduced. Research by the Massachusetts Department of Marine Fisheries found that relatively minor disturbances interrupted the development of cod spawning aggregations; it is reasonable to expect construction activities may do so as well.	Time of year restrictions and a variety of technologies are being considered for acoustic monitoring and detection of cod spawning aggregations. These would likely include a combination of methods, including gliders and fixed PAM buoys placed at selected locations to provide suitably representative coverage.
BOEM-2022-0045-0069	16	Revolution Wind is located within essential fish habitat for approximately thirty-three (33) species of interest to the region (NOAA 2018), of which require RI/MA WEA habitat at some stage in their life history. This in part attributed to the Revolution Wind Farm lease area intersecting Cox Ledge, an area regionally renowned for its marine biodiversity, and its supporting of commercial and recreational fishing. Of species that are likely to be impacted from development on Cox Ledge is Atlantic cod (Gadus morhua), which spawns in this area. Efforts should be made to avoid turbine placement, and construction in close proximity to Cox Ledge, and any areas of complex benthic habitat in general in an effort to best maintain current complex habitat structures that species such as Atlantic cod rely on. Atlantic cod have supported significant recreational and commercial fisheries that are important to coastal communities, especially in Rhode Island (Serchuk and Wigley 1992; Oviatt et al., 2003). Climate change is anticipated to hinder Atlantic cod stock rebuilding, but recreational angler accounts suggest that abundance of cod south of Rhode Island has increased significantly over the past 15 years (Sheriff 2018). Cox Ledge may be very important for effective stock rebuilding given the unique habitat of the area and potential significance in spawning. Early life history stages of Atlantic cod need complex benthic habitats, specifically boulder, cobble, and pebble substrates, like that of Cox Ledge (NOAA 1999). Moreover, cod exhibit site fidelity (Zemeckis et al. 2017) and spawning aggregations are sensitive to disturbance (Dean et al. 2012). Langan et al. (2019) suggest that eggs and larvae spawned near Cox Ledge may settle in Narragansett Bay based on larval cod observations in the Bay and their estimated hatching dates. • The full spatial and temporal extent of southern New England Atlantic cod spawning is poorly understood, as many long-term scientific surveys do not provide the spatial and temporal resolution needed to properly characterize the distribution of cod spawning activity (DeCelles et al. 2017). As such, all available data to date should be used to best understand the spawning dynamics of the species and inform impact risks. It does not appear in the DEIS that all recent cod data have been considered. Please refer to previous discussions at the New England Fisheries Management Council to better identify other, newer data sources that can be used to inform an impact assessment on cod (https://s3.us-east-1.amazonaws.com/nefmc.org/1.-220412_Staff-presentation.pdf). • Despite long-term spatially resolved information, the presence of spawning aggregations of cod in southern New England waters has been documented through various sources (Zemeckis et al. 2014). Cod have historically been managed as two units: the Gulf of Maine and the Georges Bank management units (McBride and Smedbol 2020), both of which are currently in depleted states (NEFSC 2017a, NEFSC 2017b). Although managed as two broad stocks, the management units are believed to have finer scale structure within that support metapopulations. This metapopulation structure is likely critical in supporting the overall stock. Such metapopulation and heterogeneity characteristics are important to identify, as mismatches between management units and stock structure can reduce the effectiveness of management measures. Further, the connectivity between stocks and metapopulations is important to account for to better understand a stock's resiliency to various natural and fishing mortality pressures. For example, it has been suggested that cod spawning components in the Great South Cannel, Nantucket Shoals, southern New England and the MidAtlantic are more connected (genetically and in terms of larval dispersal) with spawning components in the Gulf of Maine than those on eastern Georges Bank, the unit with which they are currently managed with (Zemeckis et al. 2014). • The Atlantic Cod Stock Structure Working Group (ACSSWG) support the finer scale biological stock structure scenarios, and identified a series of mismatches: 1) phenotypic and genetic heterogeneity suggesting that cod are not mixed within management units, 2) extensive movements between management units, and 3) dispersal of larvae around Cape Cod from the Gulf of Maine unit to the Georges Bank unit (McBride and Smedbol 2020). The ACSSWG concluded that there are likely more than two stocks of Atlantic cod, highlighting the need for improved science on a fine scale spatial structure for this species, particularly in areas that seem to sustain cod such as Cox Ledge.	Comment noted. Revolution Wind will implement a Fisheries Research Monitoring Plan to contribute to better understanding of cod spawning. For example, as part of the FRMP, Revolution Wind will tag up to 100 Atlantic cod with acoustic transmitters to support the ongoing, BOEM-funded Atlantic cod spawning study in southern New England. This was clarified in the EIS. Results from the ongoing, BOEM-funded cod study in this region should help to further elucidate the spatiotemporal dynamics of cod spawning in southern New England, which is not as well understood as other regions (i.e., Georges Bank and Gulf of Main). Preliminary results from this study, as well as an analysis of the evidence supporting the existence of more fine-scale stock structures (i.e., metapopulations) of Atlantic cod in the Northeast are provided in the EFH Assessment for this project and are being considered during the development of appropriate mitigation measures to reduce impacts to this species.

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		• Of these newly proposed management units, a separate southern New England (SNE) stock (represented as NOAA Statistical Areas 537, 538 and 539) is included. Within the SNE region is Cox Ledge, a known spawning site for Atlantic cod (e.g., Kovach et al. 2010; Zemeckis et al. 2014). Spawning is known to occur within the Cox Ledge area between late fall/early winter (Nov-Jan) and late winter/early spring (Feb-Apr), which some suggest represents a single metapopulation unique to this area. As cod return to specific spawning grounds annually in the northwest Atlantic, Cox Ledge may be unique and important to the southern New England Atlantic cod metapopulation. • Currently, the Atlantic Cod Research Track Stock Assessment Working Group is looking to implement the recommendations from the ACSSWG by constructing empirical or analytical stock assessment models for cod. This could result in a separate biologically managed stock for SNE. If Cox Ledge and wind energy areas are significant in supporting a SNE cod stock, development could then have dire impacts on the stock itself, adjacent stocks that may experience some mixing or larval connectivity, and have substantive impacts for fisheries management at this finer scale.	
BOEM-2022-0045-0069	17	The construction phase is the most likely to have negative effects on fish and habitat. Of primary concern is construction noise generated by pile driving operations. High sound levels can cause hearing loss (threshold shifts), elicit stress, and alter behavior of fish. Impacts will vary by species, as well as sound exposure (Popper et al. 2003). • For Atlantic cod, noise of frequencies from 100-1000 hertz has been found to reduce reproductive output (Sierra-Flores et al. 2015). • Operational phase noise is not likely to cause permanent damage, but it may mask communication in some fish species (Wahlberg and Westerberg 2005). This remains one of the least studied areas of wind farm noise impacts (Mooney et al. 2020). • In the context of anthropogenic noise, it is important to consider invertebrates separately from vertebrates; invertebrates (e.g., mollusks) hear in a different manner than vertebrates due to their nervous system structure and hearing organs. Their hearing organs, statocysts, work by detecting particle motion instead of sound pressure (Stocker 2002). o There may be negative impacts near the project, as de Soto et al. (2013) suggest that even routine anthropogenic noise can decrease recruitment of scallop larvae in wild stocks (Madsen et al. 2006). o Jones et al. (2020) determined that longfin squid exhibited a startle response to pile driving noise in a lab setting but they habituated quickly in the short term. 24 hours later, the squid were re-sensitized to the noise.	Comment noted. We reviewed the citations you have provided and revised the text/analysis as appropriate.
BOEM-2022-0045-0110	18	The Draft EIS recognizes that there is a concern that hydrodynamic impacts could potentially lead to negative population-level effects on the reproductively isolated cod spawning stock on and around Cox Ledge.83 It notes that "[i]n the case of reproductively isolated populations, such as southern New England Atlantic cod, hydrodynamic effects could be more significant should they result in prolonged negative changes in larval survival rates."84 While the Draft EIS concludes that hydrodynamic effects are unlikely to be biologically significant at population scales, it acknowledges that it "did not consider potential effects on fish stocks, such as Atlantic cod, that spawn in specific locations."85 For the final EIS (FEIS), BOEM must provide more detailed analysis of the impacts from hydrodynamic effects on fish stocks that spawn in specific locations, and particularly the reproductively isolated Atlantic cod spawning stock in and around Cox Ledge.	Thank you for your comment. The results from Johnston et al. 2021, a BOEM-funded study that modelled hydrodynamic impacts to representative fish and invertebrate species in the area, indicated that effects would be localized and not biologically significant at population scales. Further, there is limited spatiotemporal understanding of spawning cod dynamics throughout the Southern New England/Georges Bank region. The analysis in the DEIS currently utilizes the best available science for Atlantic cod and hydrodynamic larval transport research to support the impact determination.
BOEM-2022-0045-0069	18	Most previous studies on electromagnetic fields have focused on direct current (DC) cables, while the cables proposed in the U.S. have all been alternating current (AC). DC and AC cables should not be considered comparable when determining impacts, as fish may perceive static and alternating magnetic fields differently (Rommel and McCleave 1973a). • Various elasmobranchs (e.g. smooth dogfish and blue sharks) and teleost fish (sea lamprey, American eels, and Atlantic salmon) are all thought to be able to sense electric fields at low levels (Heyer et al. 1981; Kalmijn 1982; Rommel and McCleave 1973b). However, it is presently unknown whether behavioral changes will result from detected AC electromagnetic fields. Behavioral responses of American lobster and little skates have been documented in response to DC electromagnetic fields emitted by two high-voltage DC cables: increased foraging/exploratory behavior in skates, and a subtler exploratory response in lobsters (Hutchison et al. 2018; Hutchison et al. 2020). • The impacts of induced electromagnetic fields are expected to be greater for cartilaginous fish because they use electromagnetic signals to detect their prey (Bailey et al. 2014; Gill 2005; Gill and Kimber 2005; Bergstrom et al. 2014). • Other fish may also be affected by interference with their capacity to orient in relation to the geomagnetic field, potentially disturbing fish migration patterns (Metcalf et al. 2015) and ultimately disturbing their habitat.	Comment noted. We reviewed the citations you have provided and revised the text/analysis as appropriate.
BOEM-2022-0045-0110	19	Alternative C would result in reduced impacts to complex benthic habitats, the EFH that overlap with such areas, and finfish, and we urge BOEM to select this alternative to mitigate impacts to benthic resources, finfish, invertebrates, and EFH. BOEM estimates that Alternative C would reduce overall seafloor disturbance associated with the construction of monopiles by up to 35%, and that	Comment noted. No changes required to EIS.

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		Alternative C in combination with Alternative F, would reduce impacts by a further 8%.86 Alternative C would also reduce the impacts to benthic habitats relating to anchoring and emplacement of the interarray cable.87 Under the proposed action, 6,615 acres of benthic habitat would be impacted by construction of the Revolution Wind Export Cable, Offshore Substation-Link Cable, and Inter-Array Cable Installation and Vessel Anchoring, but only 4,440 acres and 4,374 acres would be impacted under Alternatives C1 and C2 respectively.88 Additionally, whereas under the proposed action, seafloor preparation for WTG and offshore substation foundation installation would impact around 734 acres, this would be reduced to approximately 480 acres under Alternatives C1 and C2. Importantly, although approximately 50% of the habitats impacted under the proposed action are classified as large-grained complex or complex habitats, Alternatives C1 and C2 would reduce the total percentage of acres of large-grained complex and complex habitats impacted to between 30-35%.89 BOEM also finds that because Alternative C would reduce the total length of interarray cable, the overall impacts from cable construction and maintenance would decrease under this alternative.90	
BOEM-2022-0045-0071	19	We strongly support all efforts to avoid impacts to SAV and other structured habitats along the cable route, as recommended in the Council policies. The New England Council has designated inshore areas from the coastline to 20 meters depth as habitat areas of particular concern (HAPC) for juvenile Atlantic cod. Structurally complex habitats, including eelgrass, mixed sand and gravel, and rocky habitats (gravel pavements, cobble, and boulder) with and without attached macroalgae and emergent epifauna, are essential habitats for these fish. In inshore waters, young-of-the-year juveniles prefer gravel and cobble habitats and eelgrass beds after settlement, but in the absence of predators also utilize adjacent un-vegetated sandy habitats for feeding. The New England Council recently recommended an HAPC for cod spawning habitat and complex habitats. The designation overlaps the Revolution Wind lease area and other Southern New England lease areas and is pending approval by NOAA Fisheries. The Mid-Atlantic Council has designated all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, as HAPC for summer flounder. In defining this HAPC, the Mid-Atlantic Council also noted that if native species of SAV are eliminated, then exotic species should be protected because of functional value; however, all efforts should be made to restore native species. SAV also provides important habitat for many other species.	Thank you for your comment. Revolution Wind has stated that they will avoid impacts to SAV and structured habitat during RWEC installation to the greatest extent practicable. The RWEC installation corridor overlaps mapped juvenile inshore cod HAPC at selected locations within Narragansett Bay, however, these mapped features are entirely outside of the planned installation footprint and the projected extent of suspended sediment impacts. Revolution Wind has mapped the presence of eelgrass beds in proximity to the RWEC sea-to-shore transition site. These beds are entirely outside of the construction footprint and would not be directly disturbed by sea-to-shore construction, but could be exposed to suspended sediment impacts depending on the construction method selected. Any sediment-related effects would be short-term in duration and are not expected to degrade the functional value of these habitats as EFH.
BOEM-2022-0045-0069	19	The development may offer benefits to certain fish and invertebrate species through structure creation (i.e. artificial reefs). The turbine foundations may thus increase hard substrate for recruitment following any disturbance during the construction phase (Petersen and Malm 2006). The reef effect can increase food availability (Degraer et al. 2020) and biodiversity and biomass (Inger et al. 2009; Gill 2005; Linley et al. 2007). However, new habitat created by the turbine foundations may not benefit all species that utilized the local habitat prior to construction, and may serve to attract biomass as opposed to result in increased ecosystem productivity. As such, it is important that these elements be evaluated as possible throughout the project to best understand the long-term effects of the region.	Comment noted. We reviewed the citations you have provided and revised the text/analysis as appropriate.
BOEM-2022-0045-0110	20	The DEIS concludes that installing fewer monopile foundations and reducing the length of interarray cable length under Alternative C would “noticeably reduce the extent of long-term to permanent impacts” on benthic habitat, habitat-forming invertebrates, and the finfish whose habitats overlap with the RWF project area.”91 The Draft EIS also finds that Alternative C would specifically result in less extensive impacts to large-grained complex and complex habitats. It explains that Alternative C was designed to “avoid and minimize impacts to large-grained complex and complex habitats of value for certain fish species of concern” and that this alternative would “reduce the extent of impacts for species, such as Atlantic cod, that associate with specific complex benthic habitats on Cox Ledge within the proposed RWF footprint.”92 The Draft EIS also concludes that the alternative would reduce the extent of hydrodynamic impacts on finfish when compared to the proposed action. However, the DEIS finds that relative to hydrodynamic impacts, “it is not possible to determine if this would result in measurable differences between alternatives in impacts to finfish.”93 Alternative C would avoid, minimize, and mitigate impacts to complex habitats from the presence of structures, anchoring, and cable emplacement to a greater extent than the Proposed Action, which in turn would reduce impacts to habitat-forming invertebrates and finfish, including the geographically isolated Atlantic cod spawning stock on Cox Ledge. Through the construction of even fewer WTGs, Alternative F would reduce these impacts further. BOEM should select Alternative C (in combination with Alternative E, and as necessary, Alternative F in order to achieve necessary protection of benthic habitat and tribal cultural resources).	Comment noted. No changes required to EIS.
BOEM-2022-0045-0069	20	The RIDEM looks forward to reviewing proposed fisheries resource monitoring survey designs associated with the Revolution Wind Farm. We recommend survey proposals should include a preliminary power analysis demonstrating that the proposed design will achieve a minimum of 80% statistical power (see Cohen 1988). However, higher power levels, with low effect sizes should be targeted.	Thank you for the comment. The fisheries resource monitoring plan is addressed in the EIS as an environmental protection measure, meaning it is a component of the project. Appendix F of the Final EIS has been updated to include modifications and/or additional mitigation and monitoring measures

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		Both power and effect size should be discussed with the FAB prior to survey implementation. Efforts should also be made to use shared sampling methods and results with other wind development surveys and existing fisheries surveys.	that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM fully supports regional monitoring and coordination with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures and will incorporate results in future decisions.
BOEM-2022-0045-0110	21	Underwater noise from anthropogenic sources, including from offshore wind development, can have a variety of effects on marine fishes, including behavioral impacts, masking of communication or other biologically-important sounds, physiological changes, hearing loss, and physical injuries.94 Noise impacts to fish vary depending on the type of fish species. The hearing specialist group of fish, which includes Atlantic cod, hake, and black sea bass, rely on sound for communication and other behaviors and, thus, are more susceptible to noise impacts.95 Atlantic cod, in particular, have relatively strong hearing abilities, over a frequency range that overlaps with many forms of anthropogenic noise, including pile-driving, vessels, and wind turbine operation.96 Moreover, as recognized by BOEM, "[n]oise impacts could be greater if they occur in important spawning habitat, occur during peak spawning periods, and/or result in reduced reproductive success in one or more spawning seasons, which could result in long-term effects to populations if one or more year classes suffer suppressed recruitment."97 There are multiple studies pointing to reasons for concern over possible impacts of wind farm-related noise on cod spawning. Experimental work exposing captive adult cod during the spawning period to playback of noise over frequencies typical of shipping and wind turbine operation has shown negative impacts on egg production and fertilization rates in adult cod, reducing viable embryos by 50%.98 Playback of recordings of ship noise has shown impacts on growth and body shape in larval cod as well as increased susceptibility to predators and hence implications for compromised survival.99 Spawning behavior in the wild is known to be generally sensitive to disruption: fishing activity on spawning grounds, for instance, has been shown to disrupt spawning even for those fish not captured.100 In addition to these potential direct impacts on cod spawning-related physiology and behavior, noise could lead to interference of cod acoustic communication. Cod produce vocalizations ("grunts") during spawning that overlap in frequency with anthropogenic noise. Measurements of cod grunts along with shipping and ambient sound levels made during spawning periods in the vicinity of Stellwagen Bank suggest that the distances over which cod can detect grunts might be reduced due to masking by vessel noise.101 Cod grunts are thought to serve a role in courtship and attracting mates, and interference of this communication by wind farm-related noise could potentially compromise spawning success and hence population health.102 Studies relating to European wind farms have suggested that operational noise from wind turbines might be detectable by cod to distances of 4-13 km.103 In one study, tracking of small numbers of tagged cod at a Belgian wind farm during periods when individual wind turbines were out of operation relative to periods before and after suggested no evidence of behavioral avoidance.104 In contrast, another study observed an increase in catchability of cod within 100 m of a wind turbine when it was not operating.105 Overall, impacts within the range of noise detectability might more likely relate to masking of cod calls and reduction of communication ranges than to avoidance or similar behavior.106 The Draft EIS's conclusions on the likely noise impacts on Atlantic cod from the Revolution Wind project are largely consistent with these studies. It finds that species like Atlantic cod may be more sensitive to noise impacts, and that Atlantic cod are "particularly sensitive to noise and other forms of disturbance during spawning, which can lead to longer term and more consequential effects." It emphasizes that Atlantic cod "rely on communication during spawning, using low-frequency grunts to locate potential mates and signal fertility" and that cod may interrupt or abandon spawning altogether under conditions of intense disturbance."107 The Draft EIS explains that because "scientific information indicates that the Atlantic cod that occur within in and around the RWF are a reproductively isolated population, . . . the potential for population-level effects from construction related impact pile driving and other noise sources is an issue of particular concern."108 It notes that three years of monitoring have demonstrated that cod display high spawning site fidelity to the areas of Cox Ledge, within and in the vicinity of the RWF.109 The Draft EIS further finds that "[a]lteration of the ambient noise environment could interfere with communication and alter behavior in ways that could disrupt localized cod spawning aggregations" and that if pile driving occurs when maturing and mature spawning cod are present in the RWF work area, the noise impacts "would constitute a moderate to potentially major adverse impact."110 In addition to the noise impacts from construction, BOEM observes that operational noise from WTGs could reduce the ability of hearing specialists like Atlantic cod, haddock, pollock, and hake to communicate effectively within a few hundred feet of a turbine. It notes that "[t]he low-frequency operational noise produced by WTGs overlaps the communication frequencies used by cod and other hearing specialist species like haddock," which "suggests that operational noise exceeding ambient levels could cause masking effects that reduce the effective communication range for these species and reduce reproductive success and future recruitment" for these species. BOEM finds that "these effects could range	Thank you for your comment. BOEM has reviewed the available scientific literature useful for interpreting potential WTG operational noise impacts to finfish, including Atlantic cod. BOEM used this information to refine the impact analysis and provide additional rationale. The impact determinations presented are based on current understanding and the best available science.

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		from minor to moderate adverse depending on how each species uses the affected area during periods when communication is important."111 However, the Draft EIS also acknowledges that "the potential for more significant operational noise effects on EFH species such as cod is uncertain" and that should such effects occur, they could result in long-term population-level effects that could be major in significance."112	
BOEM-2022-0045-0110	22	While BOEM concludes that the noise impact levels under Alternatives C and F would be similar to the proposed action, it anticipates that both Alternatives C and F would reduce the duration and extent of noise impacts from WTG and OSS foundation installations and that the impacts would vary depending on the reduced number of WTGs and/or OSS foundations under each alternative. BOEM also notes that because Alternatives C and F would require fewer WTGs, this would result in fewer construction days, which in turn would result in less noise injuries to finfish.113 BOEM, however, has not conducted a separate analysis on the extent to which Alternative C would reduce noise impacts to Atlantic cod, and specifically spawning cod. In the Final EIS, BOEM should improve its analysis of the extent to which Alternative C would specifically reduce impacts to Atlantic cod spawning stocks in and around Cox Ledge. The research on noise impacts on cod spawning, discussed above, suggest that avoiding the construction and operations of WTGs in Cox Ledge, and the noise associated with such activities, has the potential to significantly reduce impacts to the cod spawning population in that area.	Thank you for your comment. The FEIS has been revised to incorporate additional information and discussion regarding how Alternative C would further reduce noise-related impacts to spawning Atlantic cod in the lease area due to a decrease in construction-related activity (i.e., WTG installations) in the central portion of the lease area (i.e., areas where cod spawning has been documented).
BOEM-2022-0045-0086	22	In Table 3.13-11 of the DEIS, there is a proposed mitigation measure stating: "Revolution Wind would be required to use natural rounded stone for cable and scour protection within large-grained complex and complex habitats and avoid use of concrete mattresses where practicable. The selected materials should be designed and placed restore three-dimensional structural complexity." Revolution Wind suggests that this mitigation measure be amended to allow for consideration of technical feasibility. For instance, the scour protection layer must be comprised of materials that allow for structural integrity to protect the foundations, as described in Section 3.3.4.2 of the COP. Revolution Wind is not aware of any currently available science favoring the use of natural rounded stone as scour protection in subtidal habitats.	BOEM reviewed recommended mitigation measures and revised as appropriate .
BOEM-2022-0045-0110	23	By reducing the overall number of WTGs and length of interarray cable needed, Alternative C (in combination with Alternative E, and, as needed, Alternative F), would reduce impacts to benthic habitats, EFH, and finfish. BOEM proposes both an Alternative C1 and an Alternative C2. While we do not make a specific recommendation regarding these two sub alternatives, we note that Alternative C2 is likely the preferred sub alternative because it would reduce impacts to spawning Atlantic cod more than Alternative C1.114 In particular, Alternative C (in combination with Alternative F, if needed) would reduce impacts from the presence of structures, anchoring, and cable emplacement, for both construction and operations, on these habitats and species when compared to the proposed action. Moreover, as discussed, complex habitats in the area of the RWF are important for many invertebrates and finfish and overlap with EFH for many NEFMC-managed species. Because Alternative C avoids siting WTGs in large-grained complex and complex habitat areas of Cox Ledge to a greater degree than under the proposed action, it would reduce overall impacts to complex habitats, as well as the isolated spawning cod population that is present in these habitat areas. The fact that complex habitats may take a decade or longer to recover from offshore wind development activities provides additional justification for selecting Alternative C. Further, although BOEM has not studied the extent to which Alternative C would reduce noise impacts to Atlantic cod, research suggests that siting fewer WTGs in the complex habitats that overlap with Cox Ledge would reduce construction and operation noise impacts on spawning cod populations. Accordingly, BOEM should select Alternative C (in combination with Alternative E and, as needed, Alternative F.115	Comment noted. No changes required to EIS.
BOEM-2022-0045-0110	25	The Draft EIS proposes several mitigation and monitoring measures for benthic resources, invertebrates, finfish, and EFH. These include: (1) an anchoring plan; (2) sound field verification; and (3) passive acoustic monitoring.117 More generally, the Draft EIS states that Revolution Wind is planning fisheries and benthic monitoring studies and that it has developed a fisheries and benthic monitoring plan.118 We generally support these measures and propose several additional measures to reduce impacts to benthic habitats, finfish, and EFH.	Comment noted. No changes required to EIS.
BOEM-2022-0045-0086	25	EMF values presented in Section 3.13.2.2.2 and Table 3.13-5 as thresholds for potential effects on sharks/skates are derived from low frequency (i.e., below 20 hertz (Hz)) or DC sources. These are not applicable to responses to HVAC transmission cables. The DEIS also compares calculated field strengths for the buried HVAC cable to the ambient geomagnetic field, which is inappropriate, given the differences in frequencies (0 Hz vs. 60 Hz).	The purpose of the comparison is to demonstrate that projected EMF strength is low relative to known detection thresholds and existing exposures. As stated in text, we recognize that EMF from HVAC transmission is not directly comparable to the earth's natural magnetic field and biogenic fields. Text revised to further clarify.
BOEM-2022-0045-0086	26	Section 3.13.2.2.3 on cumulative impacts includes the statement: "EMF levels sufficient to cause limited behavioral effects on finfish could occur in highly localized areas". This conclusion, however, is not supported by the available data regarding HVAC magnetic fields. Instead, this conclusion appears to be based on research with HVDC transmission cables that has been included in the DEIS. As this	Thank you for the comment. The concern regarding confusion about HVDC versus HVAC transmission is acknowledged. However, much of the available research on EMF exposure, including some of the more current science,

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		project has been designed and planned to include HVAC cables, it is not appropriate to assess effects for HVDC cables. We strongly recommend that the information and conclusions related to HVDC transmission cables and EMF be removed from the DEIS, as Revolution Wind project incorporates HVAC transmission cables. Thus, it is not appropriate or relevant for conclusions and research related to HVDC EMF be included, since this puts Revolution Wind in the position of assessing potential for adverse effects from cables not specified as part of this project.	considers the effects of HVDC. BOEM revised text to further clarify that findings related to HVDC exposure are not necessarily applicable to HVAC transmission at 60 Hz.
BOEM-2022-0045-0110	27	BOEM also proposes sound field verification and passive acoustic monitoring for finfish and EFH.120 The sound field verification would require Revolution Wind to submit an acoustic monitoring and sound field verification plan at least 90 days prior to initiating underwater noise producing construction activities, which would contribute to improving understanding of the nature and duration of noise impacts and provide the information necessary to ensure that effects do not exceed certain levels. Additionally, BOEM proposes that Revolution Wind prepare a passive acoustic monitoring plan to record ambient noise and fish vocalizations within the RWF. The plan will include the deployment of moored or autonomous passive acoustic devices capable of detecting the vocalizations of spawning cod, and potentially other species.121 Passive acoustic monitoring devices would be implemented prior to and during the construction period and continue for at least three years of project operations once construction is completed.122 As these measures will help improve our understanding of the impacts of offshore wind construction and operations on EFH and finfish species, including noise impacts, BOEM should require these monitoring measures.	Comment noted. These measures are part of the Proposed Action.
BOEM-2022-0045-0110	28	In addition to these monitoring efforts, BOEM should conduct Atlantic cod spawning surveys in the areas of the Revolution Wind facility and export corridor to further our understanding of the impacts of offshore wind on cod spawning, and inform the development of adaptive management mitigation measures, if needed.	Comment noted. The use of PAM buoys or autonomous PAM devices will be used to monitor cod vocalizations before, during and post-construction. Monitoring would provide info on cod aggregations during spawning periods, and avoid noise impacts in these areas during construction. No changes required to EIS.
BOEM-2022-0045-0110	29	BOEM also stated that, based on acoustic monitoring and sound field verification, it could require additional adaptive measures to avoid disrupting spawning aggregations of Atlantic cod. It suggests that based on the acoustic monitoring, it may require Revolution Wind to "restrict pile-driving activity during the cod spawning season to avoid and minimize adverse impacts on Atlantic cod spawning and reduce broader population level-effects," but that this adaptive approach "has not been fully developed and the avoidance and minimization measures have not been implemented and tested."123 If through monitoring BOEM determines that time-of-year restrictions will reduce impacts to cod spawning, BOEM should require Revolution Wind to implement such adaptive restrictions on construction activities.	Comment noted. No changes required to EIS.
BOEM-2022-0045-0110	30	More generally, BOEM states that Revolution Wind is committed to preconstruction, construction and installation, and post-construction fisheries and benthic monitoring studies to assess the impacts on fisheries and benthic habitats.124 The Draft EIS provides few details on these monitoring studies. However, at a minimum, BOEM should require Revolution Wind to conduct the necessary pre-construction, construction, and post-construction monitoring of benthic and pelagic habitats and associated flora and fauna to detect any physical changes and impacts to these habitats and species that occur because of construction activities, the presence of WTG structures in the water columns, hydrodynamic effects, and other impacts.	Comment noted. Revolution Wind has prepared a Fisheries Research and Monitoring Plan that is considered part of the project.
BOEM-2022-0045-0100	60	Under Noise, insert a discussion of research related to injury and mortality to certain species in close proximity to noise impacts (pile driving), startle behavior that could affect spawning activities and recruitment success in social spawning species such as cod and longfin squid, and bivalve closure response to noise that could affect respiration and feeding (see Roberts and Elliott, 2017 (Good or Bad Vibrations? Impacts of Anthropogenic Vibration on the Marine Epibenthos available at https://reader.elsevier.com/reader/sd/pii/S0048969717306290?token=C441F4E5607842CC831E40C2A78CE074876745A457C83262E689ADE59738 BCC4454808E6ADC95427569999F9C1D5AD6E&originRegion=us-east-1&originCreation=20220308144935). Also, insert justification why noise from all other wind projects occurring for upwards of 10 years within the Regional Fisheries Area and overlapping with the distribution of regionally important fishery species distributions would not result in population-level effects for target species (all species harvested in the region are target species), particularly sensitive populations such as Southern New England cod. Justification for the conclusions reached should reflect the criteria in Table 3.3-2. Cumulative impact of such noise and associated behavior and physiological changes could have measurable impacts on species, which would, in turn, impact fisheries. This is similar to our comment 7 for Section 3.9 during the cooperating agency review.	EIS analysis has been revised to incorporate current scientific information and acknowledge uncertainty.

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BOEM-2022-0045-0086	84	Page 3.13-53, Table 3.13-7: The values in Table 3.13-7 are inconsistent and there is no information in the text regarding the calculations. Further explanation on how the values were calculated would be helpful. There are very high acreages provided for habitat conversion related to seabed preparation in large grain and complex habitats, and these do not crosswalk directly to the habitat mapping report.	The table incorrectly conflates impacts from seabed preparation and vessel anchoring. Table and quantities revised. As stated, the COP indicates that anchoring impacts could occur anywhere within a 200-meter impact radius around each foundation, which equates to approximately 3,163 acres of potential overlapping habitat impacts. However, as noted in the text and table footnotes, while vessel anchoring impacts have not been quantified in the COP they are unlikely to affect the entirety of this area.
BOEM-2022-0045-0100	95	Global comment: The Finfish and Essential Fish Habitat analyses are flawed and we strongly recommend they be substantially revised prior to publication of the FEIS. In our comments on this section we highlight concerns with the evaluation of impacts to regional resources of significant concern and the approach to the analysis which does not allow for a meaningful evaluation and analysis between the project alternatives. Alternative C would eliminate development in a known cod spawning location and reduce impacts to vulnerable and sensitive EFH by approximately one-third, yet that is not apparent from the analysis. Impacts from Alternative C could be further reduced when combined with Alternative F, but there is no discussion or analysis of this in the document. This project is proposing development in a highly complex, sensitive habitat area; the consequences of that should be transparent to the public and the decision makers. Please see comments specific to the selected geographic analysis area for each resource, and the global comment related to complex habitat and cod spawning below. The analysis approach should be revised to provide a reasonable evaluation of project alternatives and to reflect the extent (both temporal and areal) of adverse impacts that would occur from development in the highly complex habitats of Cox Ledge within the lease area, including a discussion and analysis of the project impacts to Atlantic cod that are likely to occur under the Proposed Action.	Comment noted. BOEM evaluated the analysis structure and level of detail and made updates based on other comments received that were specific to a section, page, text or analysis presented in the DEIS. Analysis has also been updated throughout, consistent with revisions to the analysis presented in the EFH document and other project related documents.
BOEM-2022-0045-0100	96	Global comment: Analyses overall are brief and would benefit from consideration of relevant project details in order to better understand the relevant project activities and impacts associated with them. Additionally, impact definitions make it difficult to understand what the actual impact on the species/taxa has been.	Comment noted. BOEM evaluated the analysis structure and level of detail and made updates based on other comments received that were specific to a section, page, text or analysis presented in the DEIS. Analysis has also been updated throughout, consistent with revisions to the analysis presented in the EFH document and other project related documents.
BOEM-2022-0045-0100	97	Global comment: We appreciate that you have expanded the DEIS to note the project overlap with cod spawning and Cox Ledge, however the document is still lacking substantive analyses and evaluations of impacts that are likely to occur to cod spawning activity and the highly complex habitats on Cox Ledge. Further, the document relies on the success of unproven mitigation measures to offset the impacts that are identified and analyzed. For example, it is acknowledged that pile driving may adversely affect cod spawning, potentially resulting in a major impact, but the DEIS concludes that this impact can successfully be mitigated through the implementation of an untested monitoring plan. We have significant concerns with such an approach, and the assumptions that are required for such an approach to be successful. Additionally, project activities that are likely to disrupt and adversely affect cod spawning aggregations are either not analyzed at all (e.g., seafloor preparation), or dismissed without any supporting rationale (e.g., vessel noise and HRG surveys). The evaluation and analysis of project activities should be revised to include an evaluation and analysis of all activities that could disrupt spawning activity. Particular emphasis should be placed on activities that will result in benthic disturbance or generate noise as such activities may disrupt aggregations or mask vocalizations. Further, spawning cod exhibit strong site-fidelity to spawning grounds. The potential for abandonment of the spawning grounds within the lease area due to the extensive modification of habitats within the lease area that would occur under the proposed action should be acknowledged and included in the analysis.	Comment noted. BOEM evaluated the analysis structure and level of detail and made updates based on other comments received that were specific to a section, page, text or analysis presented in the DEIS. Analysis has also been updated throughout, consistent with revisions to the analysis presented in the EFH document and other project related documents.
BOEM-2022-0045-0100	98	Global comment: We appreciate that additional literature and supporting information is included in the DEIS, including a more thorough evaluation of some impact producing factors (IPFs) for Atlantic cod. However, the provided analysis remains incomplete and does not include pertinent information relevant to the assessment of project impacts in the context of the existing environment and resources on Cox Ledge. We also appreciate that the temporal impacts are defined in a manner consistent with our recommend timeframes, however the timeframes do not appear to be consistently applied. Further, and as noted in comments below, the provided analysis relies heavily on perceived beneficial effects from the construction and installation of artificial structures and materials, as well as unsupported statements and conclusions. Please refer to our prior comments on other OSW NEPA documents to assist you in developing a more accurate analysis of the expected project impacts.	Comment noted. BOEM evaluated the analysis structure and level of detail and made updates based on other comments received that were specific to a section, page, text or analysis presented in the DEIS. Analysis has also been updated throughout, consistent with revisions to the analysis presented in the EFH document and other project related documents.
BOEM-2022-0045-0100	100	Global comment: The impact analysis for this section largely ignores the complex benthic habitats present in the lease area and the species that use these habitats. The lease area is on Cox Ledge and supports a highly complex mix of substrates, with more than half of the lease area supporting highly complex natural rocky habitats. The analysis largely ignores the long-term to permanent effects of the	Comment noted. The analysis has been refined to incorporate a more detailed characterization of impacts to complex benthic habitat. However, BOEM does not necessarily agree that those impacts would constitute permanent effects

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		proposed action for both finfish and EFH. For those impacts that are identified, the adverse impacts that are acknowledged are largely minimized based on the potential, perceived beneficial "reef effects" to balance/offset the extensive adverse impacts to important, highly complex natural rocky habitats that would occur under the proposed action. The Proposed Action analysis should include a reasonable analysis of the expected long-term and permanent effects to finfish and EFH, in the context of Cox Ledge. This should include the potential adverse effects that may occur as a result of the expected artificial reef effects that will occur to the highly complex, natural rocky habitats that occur throughout the lease area.	at a regional scale, as those impacts would affect a small percentage of available habitat and would recover with mitigation (i.e., decommissioning at end of project life). These conclusions are not consistent with a major impact per the DEIS criteria.
BOEM-2022-0045-0100	101	Global comment: Please check and clarify all presented calculated impact areas. Similar to the Benthic Resources section, the presented calculated areas in the tables and text do not align and the reason is unclear. Specific examples of inconsistencies are provided below.	The impact acreage for each alternative was calculated from GIS using benthic habitat and project configuration data layers provided by the applicant, impact radii and buffer widths for foundation and cable installation from the COP, respectively, and preliminary alternative configurations developed by BOEM. All calculations were reviewed for consistency and revised where needed to reflect refinement of the alternatives in the FEIS. As stated, each of the alternatives would reduce the total acres of impacts in complex habitat types compared to the proposed action. However, while the total impact footprint in those habitat types may decrease, the proportional distribution of impacts could increase as a percent of the total for some alternatives.
BOEM-2022-0045-0100	102	Global Comment: As the DEIS is revised, to ensure consistency between documents please refer to the recent comments we have submitted to BOEM on the BA prepared for the ESA section 7 consultation.	Comment noted. BOEM has reviewed updates to the Section 7 consultation and revised the EIS for consistency in multiple places throughout the document.
BOEM-2022-0045-0100	103	This section notes that "Geographic Analysis Areas (GAAs) are not used as a basis for analyzing the direct and indirect effects of the Proposed Action, which represent a subset of these broader effects and expressed over a smaller area. These impacts are analyzed specific to each IPF." This language is also used in other sections of the document, but in general, the intent and relevance of this statement are unclear as written, and it should be revised to ensure analysis areas for all impacts are clear. Additionally in this section, on page 3.13-31, the text does seem to use the GAA as a basis for analyzing the effects from the Proposed Action, when it notes that "...2) the loss of individuals would likely be insignificant relative to natural mortality rates for planktonic eggs and larvae across the GAA, which can range..." Please see additional comments on GAAs and scale of impacts in the attached letter.	The geographic analysis areas presented in the DEIS are based on geographic distribution of organisms that could be affected by the cumulative effects of the Proposed Action and other proposed offshore wind projects on the Mid-Atlantic OCS. BOEM has reviewed the discussions of geographic area within the FEIS and deemed it appropriate for analysis.
BOEM-2022-0045-0100	104	The geographic analysis area does not match the scale of project activities. The analysis area is the entire OCS from the Gulf of Maine to Cape Hatteras. However, there are no project activities occurring in the Gulf of Maine and project activities (vessels) only travel as far south as Virginia. Further, there is no rationale for the size of the analysis area, which serves to dilute the effects of the project specific impacts to finfish and EFH. Of particular concern is the lack of consideration of regional scale importance of Cox Ledge in supporting finfish and the unique features that provide EFH for managed fish species. A more reasonable geographic analysis that allows for a meaningful evaluation of the impact producing factors (IPFs) of the proposed action, and alternatives, should be selected.	The geographic analysis areas presented in the DEIS are based on geographic distribution of organisms that could be affected by the cumulative effects of the Proposed Action and other proposed offshore wind projects on the Mid-Atlantic OCS. BOEM has reviewed the discussions of geographic area within the FEIS and deemed it appropriate for analysis.
BOEM-2022-0045-0100	105	We appreciate that you have included the newly proposed Council HAPC designation for southern New England. However, it appears that the two separate habitats (cod spawning habitat and complex habitats) are being conflated as a single habitat - cod spawning locations within complex habitat. The New England Fishery Management Council approved an HAPC for: 1) cod spawning; and 2) complex habitats that occur anywhere within the defined area (approximately a 10 km buffer surrounding the RI/MA WEA). The description and analysis of impacts to the HAPC should be revised to clearly distinguish the two habitats designated as an HAPC.	HAPC description revised for clarity.
BOEM-2022-0045-0100	106	Under Affected Environment, please describe the status of important finfish stocks that are primarily affected by this project. The current status of affected stocks is an important element to include when considering impacts to finfish species and should be integrated into the DEIS. For example, the Georges Bank cod stock, the stock affected by this action, has experienced declining biomass levels for some time and has a long history of low recruitment. Activities that may affect spawning success and future recruitment may exacerbate such trends and result in population-level impacts. A preliminary list of fish stocks affected by this project can be found on our commercial fisheries socioeconomic impact reports on our website (https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/Revolution_Wind.html#Revenue_by_Port). Stock status and trends for individual species can be found on our Stock Smart webpage (https://www.st.nmfs.noaa.gov/stocksmart?app=browse-by-stock) or on our FishWatch website (https://www.fishwatch.gov/).	Fish stock status has been provided in Table 3.13-1.

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BOEM-2022-0045-0100	108	The use of other environmental review documents to justify impacts for other projects is not appropriate. This section uses other EISs as evidence that species will not be affected without any context or rationale. E.g. “BOEM (2021) has concluded that vessel encounters would have no effect on this species [oceanic whitetips]; therefore, it is not considered further in this EIS.” Additionally, documents like BOEM 2021 (SFW BA) should not be used for this purpose. Citations should be reviewed throughout this section to ensure that they provide information that supports the conclusion being made. The rationale/analysis should be carried out in this document, citing primary literature as needed.	References revised and updated for primary sources where appropriate. The SFWF BA reference was removed.
BOEM-2022-0045-0100	109	Atlantic sturgeon critical habitat is mentioned but no further analysis included. The document should state whether project activities will occur in critical habitat and evaluate any potential impacts.	EIS revised to clarify that no project activities will occur in Atlantic sturgeon critical habitat, with the exception of construction vessel transits to specific ports.
BOEM-2022-0045-0100	110	It appears Shortnose sturgeon and Atlantic sturgeon are mixed up in the first paragraph on this page. Please ensure references to these species are correct and consistent.	Text revised to clarify. The text transitions from Atlantic sturgeon to shortnose sturgeon. The citations are for literature on the migratory patterns and distribution of shortnose sturgeon.
BOEM-2022-0045-0100	111	Water withdrawals from DC converter stations, lighting, vessel traffic, and habitat disturbance should be considered as IPFs.	The IPFs evaluated are those that are likely to result in greater than negligible effects. Those IPFS that are likely to result in negligible effects are analyzed in Appendix E. No water withdrawals are proposed for DC to AC conversion.
BOEM-2022-0045-0100	112	Under Climate Change, please note that there will be both beneficial and adverse impacts from climate change. Hare et al. (2016 - available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0146756) indicate that while some species are negatively affected by climate change, others are either neutrally or positively affected by climate change.	Text revised to clarify minor beneficial impacts could occur as well.
BOEM-2022-0045-0100	113	The bycatch IPF references inverts when it should be on finfish.	Text revised to clarify.
BOEM-2022-0045-0100	114	Under EMF, please revise the impact conclusions from "negligible to minor" to "negligible to moderate" because existing information indicates that both HVAC and HVDC cables will be routed through the Geographic Analysis Area from other projects based on existing information. This is consistent with text provided in this section.	To our knowledge no projects using HVDC transmission have been proposed. The EIS states that the "*EMF from planned and potential future activities would have a negligible to minor adverse effect for HVAC, or moderate adverse if HVDC is used.*" No change required to EIS.
BOEM-2022-0045-0100	115	It is unclear why Shortnose sturgeon are mentioned in the last sentence of the page. Please review for the FEIS.	Sentence revised to indicate that shortnose sturgeon could be affected by underwater noise in or near Narragansett Bay.
BOEM-2022-0045-0100	116	Under Noise, please insert a discussion on impacts to other finfish species beyond just Atlantic sturgeon and the giant manta ray to fully describe potential impacts to finfish species. Startle and flee/avoidance responses should be discussed and noise masking impacts should be discussed for species for which sound is important such as Atlantic cod. Existing research indicates pile driving noise could elicit behavioral responses in certain species as far away as 7.5 km from the source. Given the proximity of adjacent wind projects, such noise could have impacts on species in adjacent projects. If behavioral responses to noise disrupt spawning aggregations or activity, impacts could occur for the duration of such noise. This should be noted in this section.	Comment noted. BOEM evaluated the noise analysis to other finfish species and made revisions where applicable
BOEM-2022-0045-0100	117	Under Presence of Structures, please include a more comprehensive discussion of peer reviewed literature on oceanographic wake effects from offshore wind projects, including those from the BOEM/NMFS/RODA Synthesis of the Science white paper (under review for publication) and other European papers discussed by the International Council for the Exploration of the Seas. This will ensure that the analysis in this section is based upon the best scientific information available, which indicates wind wakes may have broad scale effects on biological and physical oceanography with implications for all trophic levels. We are concerned that the impact conclusions are based solely on the Johnson et al. 2021 report, which is not peer reviewed. Our scientists reviewed this paper and have expressed several concerns with the methodology and result interpretation. This section should also include a discussion of the implications of egg/larval transport into unfavorable locations could result in increased mortality and reduced recruitment for certain species, particularly those stocks/species in poor condition such as Atlantic cod. Because this section notes impacts are measurable for at least two species, permanent, and could affect the regional distribution of a species, impacts from the presence of structures should be classified as at least "moderate" and possibly "major" to be consistent with impact definitions in Table 3.3-2.	Comment noted. BOEM evaluated the Presence of Structures analysis and made revisions, where applicable, including discussion of the BOEM/NMFS/RODA white paper .
BOEM-2022-0045-0100	118	Similar to the comments in the Benthic Habitat and Invertebrates section, the No Action alternative for Finfish and EFH focuses entirely on the planned development of all other wind lease areas, with the addition of climate change for the evaluation and analysis. However, the conclusions state that OSW, in combination with ongoing activities are expected to result in "moderate adverse impacts and could	The conclusion of both adverse and potential beneficial impacts is based on the understanding that habitat conversion effects resulting from project construction and the presence of structures will benefit some finfish and EFH

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		potentially include moderate beneficial impacts" for finfish and EFH. This statement is predicated by the determination that "moderate" adverse impacts only would occur from other activities that are not discussed or addressed in the analysis, specifically referencing "ongoing fishing activities" in both the finfish and EFH determinations. However, the provided impact assessments and rationale do not include support for these impact determinations. This approach dilutes the project specific effects of the Proposed Action and does not provide any support for the effects determination of non-OSW related impacts. The analysis should be modified to include a meaningful evaluation of the No Action alternative and an analysis for all activities considered in the concluding effects determination.	species at the expense of others depending on their habitat preferences. The best available science indicates that reef effects resulting from the presence of structures clearly benefits some fish and invertebrate species that associate with hard substrates and/or vertical structures in the water column. Related reef effects on food web productivity and changes in predator prey relationships are also likely to benefit some species at the expense of others, but the specific nature of these effects is difficult to predict with certainty. These complex effects will interact with changes in commercial and recreational fishing and other activities, also likely resulting in additional effects that are difficult to predict. These uncertainties are acknowledged in the EIS. The FEIS has been revised to clarify these points and the basis for conclusions where appropriate.
BOEM-2022-0045-0100	120	Table 3.13-2, Noise IPF - The determination about Shortnose sturgeon is too vague. If noise producing activities (pile driving, cable installation, vessels...etc) are in nearshore or river environments where the species occurs, then the species may be impacted. This should be revised for the FEIS.	Comment noted. The only significant underwater noise producing activities occurring in the nearshore zone where shortnose sturgeon may occur is UXO detonation, HRG survey activity, and vessel noise associated with RWEC construction in nearshore areas of Rhode Island. The FEIS has been revised to acknowledge the potential for shortnose sturgeon exposure. The FEIS documents that there is no convincing evidence that shortnose sturgeon currently occur in Narragansett Bay, therefore exposure to underwater noise and seabed disturbance from RWEC sea-to-shore transition construction is unlikely to occur.
BOEM-2022-0045-0100	121	Revise the description of the acreage of large-grained complex and complex habitat affected by the maximum work area to 2,576 acres based on the information provided in this paragraph (2,576 acres = 49% of 3,163 acres + 44% of 2,333 acres).	Thank you for the comment, calculations have been revised to be accurate with the acreages as currently understood.
BOEM-2022-0045-0100	122	The only IPF analyzed for listed fish (sturgeon) is noise and the analysis is cursory. The section is missing IPFs and associated analysis that should be considered for listed fish (i.e., habitat disturbance, cable laying, pollutants/discharges, lighting, EMF, surveys/monitoring, vessels). The ESA Info Needs document and prior EISs should be consulted to see the appropriate IPFs to be analyzed.	Comment noted. BOEM evaluated the ESA Info Needs document and made revisions to the noise analysis for listed fish as applicable. The reader is directed to Table E2-4 (Appendix E1) which summarizes IPFs having negligible impacts on Atlantic sturgeon and giant manta ray.
BOEM-2022-0045-0100	123	Please characterize all elements of noise: sound pressure, particle motion, and substrate vibration.	Comment noted. BOEM evaluated the characterization of the various noise elements and made revisions, as applicable, to ensure that that they are accurately characterized.
BOEM-2022-0045-0100	124	Citations are needed for text related to auditory masking.	BOEM has reviewed the available science for appropriate citations.
BOEM-2022-0045-0100	125	The text states that "As shown in Table 3.13-3, impact pile driving used to install the RWF monopile foundations is the most intense source of noise resulting from the Project and would produce the most significant and extensive noise effects on fish." However, UXO detonations are actually the activity most likely to cause injury-level effects.	Text revised to clarify that impact pile driving is one of the most intense sources of noise, due to the number of WTG and OSS foundations to be installed.
BOEM-2022-0045-0100	126	BOEM acknowledges that noise could cause moderate to major adverse impacts on spawning cod and proposes requiring developers to have an acoustic monitoring plan and adaptive approach. What this entails is unclear, so it is not possible to determine whether this is sufficient to mitigate project impacts. Please provide information on the proposed methodology to assess the acoustic monitoring plan and adaptive approach. This should include sufficient details to understand the scientific limitations and assumptions necessary for the plan and adaptive approach to be successful. For example, if PAM glider monitoring is proposed, the glider must be within approximately 0.1 km of cod vocalizations for detection, and the assumption must be made that ongoing activities (e.g., seabed preparation, pile driving, etc) would not result in avoidance behaviors of cod. Details should be included on the proposed monitoring, detectability range, and assumptions made that would directly affect the success of the proposed monitoring, as well as a detailed methodology on the proposed adaptive approach.	Comment noted. PAM is a Mitigation Measure and is not currently proposed as part of the project. It is identified as a Mitigation Measure in Table 3.13-11 and described conceptually. We currently do not have specific information on what the PAM will entail to the level of detail NMFS is requesting in their comment.
BOEM-2022-0045-0100	127	Only a small number of species have ever been studied for responses to EMF although there are many species of EMF sensory species living in this ecosystem. NEFSC does not agree that the science on EMF impacts is settled. Please include the best available science in your analysis given that much	Comment noted. BOEM reviewed and incorporated recommended literature related to the effects of EMF on additional species beyond those included in the DEIS, as appropriate.

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		work has been conducted since the BOEM reports cited from 2011 and 2019. Other IPFs in this DEIS are acknowledged to have species specific effects (e.g., noise, hydrodynamics) but in the case of EMF, it is assumed in the DEIS that studies on a limited number of species and life stages is sufficient to address all species.	
BOEM-2022-0045-0100	128	Please provide a comparison of the structure size and operational sound emissions between BIWF and those planned for RWF if the BIWF data is used to represent expected operational sound emissions from RWF.	The size of the WTGs (6-MW) and noise levels provided by the BIWF WTGs (110-125 re 1 µPa, occasionally reaching as high as 128 re 1 µPa, mostly at low frequencies ranging from 10 Hz to 8 kHz) is provided in Section 3.13.2.2.2. No changes to the EIS required.
BOEM-2022-0045-0100	129	This text should be re-evaluated: "This suggests that operational noise exceeding ambient levels could cause masking effects that reduce the effective communication range for these species and reduce reproductive success and future recruitment for species like cod and haddock. The likelihood of these effects are unclear however they are likely to be species specific." The analysis on operational noise requires more consideration and a more precise conclusion. Impacts on vital population rates of cod and haddock represent potential major adverse impacts for these species. Of particular concern is the project overlap with identified Atlantic cod spawning grounds.	Comment noted. BOEM revised the text to clarify the potential operational noise effects to finfish, with additional information on cod and haddock and consideration of the overlap with cod spawning grounds.
BOEM-2022-0045-0100	130	The entire narrative around artificial reefs is underpinned by the assumption that aggregating fish at structures is only a benefit. Although the potential for adverse or neutral effects of the reef effect are acknowledged (page 451), these effects do not seem to be considered in the overall conclusion. Further, it is suggested that habitat damage from project construction could take a decade or more to recover from but "those impacts could be offset over a shorter period of time by beneficial reef effects to other species" (page 451). This is an apples and oranges comparison and should be removed from the text.	That is not the stated conclusion of the reef effect analysis. The FEIS acknowledges that both adverse and potential beneficial impacts may result from reef effects, varying by species. This conclusion is based on the understanding that habitat conversion effects resulting from project construction and the presence of structures will benefit some finfish and EFH species at the expense of others depending on their habitat preferences. The best available science indicates that reef effects resulting from the presence of structures clearly benefits some fish and invertebrate species that associate with hard substrates and/or vertical structures in the water column. Related reef effects on food web productivity and changes in predator prey relationships are also likely to benefit some species at the expense of others, but the specific nature of these effects is difficult to predict with certainty. These complex effects will interact with changes in commercial and recreational fishing and other activities, also likely resulting in additional effects that are difficult to predict. These uncertainties are acknowledged in the EIS. The FEIS has been revised to clarify these points and the basis for conclusions where appropriate.
BOEM-2022-0045-0100	131	The Floeter et al. 2017 citation is not used appropriately. The results of Floeter et al. 2017 do not support the statement that wind farm structures "would be unlikely to negatively affect, and may even strengthen, the stratification patterns that contribute to the cold pool and food web productivity". Floeter et al. 2017 found that the presence of 80 non-operating turbines decreased local water column stratification (i.e., increased vertical mixing). Because turbines were not operational during sampling, this study is not representative of wind wake effects. Rather it focuses on the effects of the structures themselves on hydrodynamics. Furthermore, the work that Floeter et al. 2017 reported was not a long term monitoring program as stated in the DEIS; rather their work was conducted in a single week of July 2014.	BOEM has reviewed the citation and revised the text as appropriate.
BOEM-2022-0045-0100	132	The text states that "The Proposed Action could affect the endangered Atlantic sturgeon in the same manner as the No Action Alternative, but no Atlantic sturgeon would be injured or killed" is inconsistent with the determination on pg. 3.13-36 that "effects ranging from short-term behavioral disturbance to short-term or permanent hearing threshold shifts, to barotrauma injury or mortality" are possible.	Text deleted. Inconsistent with previous text, as indicated in comment.
BOEM-2022-0045-0100	133	The evaluation of anchoring and new cable placement/maintenance is a good example of how the complexity of the habitat in the lease area, on Cox Ledge, is not fully considered, analyzed, or evaluated. Specifically, the analysis of the impacts to EFH states the anticipated impacts to 3,178 and 3,410 acres of habitat, respectively, would result in "short-term" disturbance and would constitute a "minor" adverse impact. As stated in Table 3.6-7, the interarray cable installation would result in a total of 1,969 acres of impacts (through habitat conversion) to complex habitats (788 acres in large- grained complex and 1181 acres in complex) this represents approximately 58% of IAC impacts occurring within complex habitats. Anchoring and cable installation through complex, natural rocky habitats would	Comment noted. BOEM evaluated the anticipated impacts to respective habitats and habitat conversion and clarified, as appropriate, that the conclusion that the impacts would constitute a minor adverse impact is relative to the overall extent of complex habitat within the lease area and not just the extent of habitat affected by project related disturbance.

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		result in long-term to permanent impacts. As noted in prior comments, please refer to our comments on previous documents to assist you in providing a reasonable, supported analysis of expected project impacts.	
BOEM-2022-0045-0100	134	Please clarify, or reconsider the text that states that a reduction in extent but not intensity would reduce the impact determination of the Noise IPF to Atlantic sturgeon and giant manta rays, as the intensity (and thus effect) would be the same. Pile driving and UXO activities that were evaluated to potentially result in mortality in Alt. B will still be occurring.	BOEM has considered this recommendation and revised where appropriate. In the case of manta ray, exposure to UXO detonation is discountable.

Environmental Justice

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BOEM-2022-0045-0075	3	Robust Stakeholder Engagement The FEIS should include information about stakeholder engagement and consultation with environmental justice populations and Native American Tribes. Several of the ports under development to become critical staging areas for offshore wind projects are considered environmental justice communities. The FEIS should include steps that are being taken to ensure these and other environmental justice communities are seeing economic benefits. In addition, long-term planning is necessary to ensure that the economic gains in these communities during offshore wind development are long-lasting. For this to happen effectively, developers and federal, state, and local entities must consult these communities at every step of the planning process. The DEIS references a recent survey of commercial fishing crew members in the northeastern U.S. that indicates that 13% of survey participants identified their race as Black, Asian, American Indian/Alaska Native or Native Hawaiian/Pacific Islander and 7% identified as Hispanic or Latino. BOEM should ensure that all stakeholder engagement and mitigation related to impacts to commercial fishing, including the loss of gear, are conducted with appropriate language access	Thank you for the comment. A reference to Revolution Wind's supportive programs designed to provide craft-entry opportunities for minorities, women, and economically disadvantaged non-minority males has been added to Section 3.12 Environmental Justice. Regarding public outreach, BOEM agrees engagement with environmental justice and underserved communities is important for understanding potential impacts and mitigations related to offshore wind development. For Revolution Wind, opportunities for public input were provided through the NEPA scoping and DEIS public review process. Scoping meetings were held virtually in May 2022, and DEIS public review hearings were held in person at Aquinnah, MA, on October 4, 2022; East Greenwich, RI, on October 5, 2022; and New Bedford, MA, on October 6, 2022; as well as virtually on September 29 and October 11. Transcripts of all meetings and recordings from virtual meetings are available at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. Outreach for meetings included: • email notifications to 110 individuals who signed up during the public scoping for the project; • notifications and advertisements posted in six newspapers: The Standard Times (owned by South Coast Today), Gannet Media Group (MA), The Chronicle (CT), The Newport Daily News (RI), Vineyard Gazette, The Day (CT); • publication of the Notice of Availability in the Federal Register; • BOEM press releases notifying 14 print news media outlets in RI and 8 in MA as well as social media announcements; • notification letters sent to state congressional members BOEM is currently working on developing a targeted approach to advance outreach and engagement with environmental justice and underserved communities on offshore wind, including through a pilot approach for the New York Bight area. BOEM is developing standard operating procedures and will apply lessons learned and tools developed through the pilot approach, including consideration of potential language needs, to enhance engagement for future OSW projects.
BOEM-2022-0045-0075	4	Environmental Justice, Community Benefits, and Avoiding Adverse Impacts The DEIS notes that environmental justice populations may experience employment income benefits, but that the benefits would be no greater for environmental justice populations than those experienced by non-environmental justice populations. The FEIS should indicate what actions are planned to ensure that environmental justice populations have equitable access to these jobs and income benefits. For example, Rhode Island launched the Building Futures program in 2007 to leverage the Registered Apprenticeship model of workforce development and prepare diverse, low-income people for success in employment as registered apprentices in the building trades. The FEIS should include any plans to utilize programs such as this to improve access for people in environmental justice populations. The DEIS states that environmental justice and Native American tribes will experience several adverse impacts. Community benefit agreements are one way to mitigate impacts, and BOEM should explore such agreements as an Environmental Protection Measure (EPM). BOEM should also consider all impacts to environmental justice populations and Native American tribes, including but not limited to the cultural resources and ancient submerged landforms that the DEIS notes could be discovered, as well as those that have already been identified. EPMs should include plans to monitor these impacts in the FEIS. Offshore wind power could play a significant role in reducing pollution in our region. Per ISO-New England's analyses, from one-sixth to one-third of New England's old fossil fuel plants will likely retire over the next decade, and it is imperative that we fill any gap with clean energy. In addition to meeting state climate goals, decarbonization would reduce local co-pollutants and lead to improved air quality, which is a significant public health issue. Estimates of the local public health co-benefits of decarbonization are of the same order of	Thank you for the comment. A reference to Revolution Wind's supportive programs designed to provide craft-entry opportunities for minorities, women, and economically disadvantaged non-minority males has been added to Section 3.12 Environmental Justice. As described in the DEIS, during operations, the Project would have an overall long-term minor beneficial health impact on populations in the GAA, including environmental justice populations, by avoiding a portion of the air pollutant emissions generated by fossil fuel–combusting energy facilities.

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		magnitude as the climate-stabilization benefits alone.The cobenefit potential of reduced emissions is especially high for our most vulnerable communities, which are systematically overburdened by fossil energy pollution. In Appendix E2, Assessment of Resources with Minor (or Less) Impact Determinations, Table 3.4-3 reports Estimated Annual Avoided Emissions for the Operation of Future Offshore Wind within the Geographic Analysis Area. The averted pollution and the local co-benefits for public health is substantial (and its value could be estimated using an integrated assessment model). An environmental justice analysis of the averted pollution could specify the cobenefits to environmental justice communities that are now disproportionately affected. Fossil fuel retirements will mean the loss of some high-quality employment in the sector. It is crucial that states ensure a just transition of these power plants and that offshore wind projects foster the creation of high-quality, family-sustaining jobs. Through the use of project labor agreements and community benefits agreements, offshore wind can create job transition opportunities for workers affected by this transition. The FEIS should consider these impacts in its analysis of all alternatives, particularly the "No Action Alternative." Without offshore wind, it is likely that fossil fuel energy facilities would either come online or be kept online to meet future power demand in New England. Therefore, BOEM should reject the "No Action Alternative" because it would drive up pollution, prevent states from achieving mandated climate goals, increase energy costs, and threaten grid reliability by continuing our region's overreliance on fossil fuels for electricity generation.	
BOEM-2022-0045-0110	7	We urge BOEM to pursue measures to ensure that any negative impacts to environmental justice communities are mitigated and that the many environmental and economic benefits offshore wind can provide communities are maximized. One way to do this is to ensure that project construction occurs in a manner that does not create a level of pollution at any one port that could have deleterious impacts to that community.	As described in Table F-1 in Appendix F of the EIS, a number of environmental protection measures will be implemented by the proposed project to reduce adverse traffic, water quality, noise, and visibility impacts to environmental justice populations.
BOEM-2022-0045-0113	8	Utilizing domestic content in renewables also has equity implications. Data shows that decline in U.S. manufacturing has been devastating to the middle-class, especially for Black and Hispanic workers and other workers of color who disproportionately do not hold college degrees and whom experience discrimination limiting access to better-paying jobs.27 Manufacturing wages are substantially larger for median-wage, non-college-educated employees, with Black workers in manufacturing earning 17.9% more than in non-manufacturing industries; Hispanic workers earning 17.8% more, Asian American Pacific Islander (AAPI) earning 14.3% more; and white workers earning 29% more.28 And finally, requiring use of domestic content can help reduce the overall impact on the environment from offshore wind projects because U.S. energy intensive manufacturers are relatively clean compared to competitors. As one example, "[s]teel exporters to the US emit 50-100+% more CO_2 emissions per ton than U.S. producers on average."29 Use of domestic content can also reduce shipping distance, and thus emissions resulting from long-distance maritime transportation. The International Maritime Organization (IMO) estimates that maritime shipping generated 1 billion tons of greenhouse gasses per year from 2007-2012. Another study estimates that maritime shipping emissions are forecasted to rise between 35% and 210% by 2050.	Thank you for the comment.
BOEM-2022-0045-0103	9	EPA recognizes the potential community/local air quality benefits from the displacement of regional fossil fuel energy generating units, and economic benefits (realized through jobs in the construction, supply chain and service industries) associated with the clean energy produced by the Revolution Wind project. We encourage BOEM to continue to identify these benefits to communities, including communities with Environmental Justice concerns, in the FEIS.	Thank you for the comment. As described in the DEIS, during operations, the Project would have an overall long-term minor beneficial health impact on populations in the GAA, including environmental justice populations, by avoiding a portion of the air pollutant emissions generated by fossil fuel–combusting energy facilities. BOEM will continue to identify these benefits to environmental Justice populations in the FEIS.
BOEM-2022-0045-0103	10	EPA appreciates that the DEIS expanded the Environmental Justice (EJ) analysis in response to our previous input to include the three census block groups adjacent to Sparrows Point in Dundalk, Maryland. As the project is refined and the preferred alternative is further developed, a full range of expected impacts to the affected communities should be thoroughly evaluated and mitigation needs addressed.	Thank you for the comment. As the proposed project is refined and the preferred alternative is further developed, BOEM will evaluate a full range of expected impacts to affected environmental justice populations and address mitigation needs.
BOEM-2022-0045-0103	11	The DEIS at page. 3.12-32 states, "Environmental justice and non-environmental justice populations would equally experience any adverse traffic impacts." It is not clear that this will be the case as impacts associated with port development may include traffic, noise, and localized air emissions; these should be considered in light of existing health disparities and exposure burdens.	Text deleted. As described in the DEIS, the block group in which most of the closest residences to the proposed onshore Project infrastructure are located is not a potential environmental justice area of concern based on either minority or low-income population criteria.
BOEM-2022-0045-0113	11	As mentioned, employing high labor standards has been proven to result in greater safety, access, and equity. The DEIS states, "offshore wind energy projects would support new employment and economic activity and the manufacturing sector and marine construction and transportation sectors. Some members of the environmental justice populations are expected to experience these employment income	Thank you for the comment. A reference to Revolution Wind's supportive programs designed to provide craft-entry opportunities for minorities, women,

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		benefits, but the benefits would be no greater for environmental justice populations than those experienced by non-environmental justice populations."41 : Christiansen et al. 2022; Dorrell et al. 2022; Daewel et al. 2022; Raghukumar et al. 2022; Floeter et al. 2022;Apprenticeship programs provide paid, on-the-job experience, making it particularly valuable in providing pathways for low-income workers into a higher skill, family-supporting careers. Estimates find that a worker who has completed an apprenticeship program will earn $300,000 more over the course of their career than non-apprenticeship participants.42 The FEIS should consider developers plans to support programs such as Building Futures, which was launched in Rhode Island in 2007 to leverage the Registered Apprenticeship model of workforce development and prepare diverse, low-income people for success in employment as registered apprentices.	and economically disadvantaged non-minority males has been added in Section 3.12 Environmental Justice.
BOEM-2022-0045-0113	12	The DEIS also indicates the potential for adverse impacts to environmental justice populations and Native American tribes. Community benefit agreements are one way to mitigate impacts and should be explored as an Environmental Protection Measure (EPM). All impacts to environmental justice populations and Native American tribes should also be monitored, including but not limited to the cultural resources and ancient submerged landforms that the DEIS notes could be discovered, as well as those that have already been identified. EPMs should include plans to monitor these impacts in the FEIS and include outreach to the communities where adverse impacts are anticipated. And, while it may not be required, including in the FEIS information about consultation with environmental justice populations could also support the goals of the federal statues described in the previous section.	Monitoring and treatment plans for cultural resources and submerged landforms important to Native American tribes are discussed in Section 3.10 and Appendix J. Government-to-Government consultations with federally-recognized tribal nations are discussed in Appendix A. Additional mitigation measures to which Revolution Wind has committed, including measures related to impacts on communities, are listed in Appendix F, Table F-1. BOEM agrees engagement with environmental justice and underserved communities is important for understanding potential impacts and mitigations related to offshore wind development. For Revolution Wind, opportunities for public input were provided through the NEPA scoping and DEIS public review process. Scoping meetings were held virtually in May 2022, and DEIS public review hearings were held in person at Aquinnah, MA, on October 4, 2022; East Greenwich, RI, on October 5, 2022; and New Bedford, MA, on October 6, 2022; as well as virtually on September 29 and October 11. Transcripts of all meetings and recordings from virtual meetings are available at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. Outreach for meetings included: • email notifications to 110 individuals who signed up during the public scoping for the project; • notifications and advertisements posted in six newspapers: The Standard Times (owned by South Coast Today), Gannet Media Group (MA), The Chronicle (CT), The Newport Daily News (RI), Vineyard Gazette, The Day (CT); • publication of the Notice of Availability in the Federal Register; • BOEM press releases notifying 14 print news media outlets in RI and 8 in MA as well as social media announcements; • notification letters sent to state congressional members BOEM is currently working on developing a targeted approach to advance outreach and engagement with environmental justice and underserved communities on offshore wind, including through a pilot approach for the New York Bight area. BOEM is developing standard operating procedures and will apply lessons learned and tools developed through the pilot approach, including consideration of potential language needs, to enhance engagement for future OSW projects. BOEM welcomes feedback on our current activities and recommendations on how to improve engagement approaches for future activities. Please contact Jessica Stromberg , BOEM Office of Renewable Energy Programs, 45600 Woodland Road, Sterling, Virginia 20166, (703) 787-1730 or jessica.stromberg@boem.gov to get connected with our team to talk further.
BOEM-2022-0045-0103	12	As the project progresses and more information is available regarding port usage and required development, it should be included in the FEIS. Relevant sections including but not limited to traffic, air quality, environmental justice and commercial fisheries should be updated.	Thank you for the comment. Port of Montauk development activities are included in the Proposed Action of the South Fork Wind Farm EIS Project and therefore are not included in the Proposed Action of the RWF Project. The

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		Port development at the Port of Montauk is not currently considered as part of the Proposed Action and may have environmental impacts.	potential usage of the developed Port of Montauk is included in the Proposed Action of the RWF Project.
BOEM-2022-0045-0118	12	Also, you talk about social justice. Where is the social justice for all the rare metals that have to be mined for this?	Thank you for the comment. This question is outside the scope of the impact analysis for this project.
BOEM-2022-0045-0103	13	As discussed in Section 3.12-8 of the DEIS, on-shore project infrastructure will be located in a community with environmental justice concerns in North Kingstown, RI. EPA recommends focused community engagement in neighborhoods located in the vicinity of the Davisville substation and areas through which export cables will be routed. Based on demographic information in EPA's EJ Screen, there may be linguistically isolated households in the vicinity of the Davisville substation where Spanish is primarily spoken. EPA recommends that information and outreach materials provided to households in North Kingstown, RI, be provided in English and Spanish and that Spanish interpretation be provided at public meetings.	BOEM agrees engagement with environmental justice and underserved communities is important for understanding potential impacts and mitigations related to offshore wind development. For Revolution Wind, opportunities for public input were provided through the NEPA scoping and DEIS public review process. Scoping meetings were held virtually in May 2022, and DEIS public review hearings were held in person at Aquinnah, MA, on October 4, 2022; East Greenwich, RI, on October 5, 2022; and New Bedford, MA, on October 6, 2022; as well as virtually on September 29 and October 11. Transcripts of all meetings and recordings from virtual meetings are available at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. Outreach for meetings included: • email notifications to 110 individuals who signed up during the public scoping for the project; • notifications and advertisements posted in six newspapers: The Standard Times (owned by South Coast Today), Gannet Media Group (MA), The Chronicle (CT), The Newport Daily News (RI), Vineyard Gazette, The Day (CT); • publication of the Notice of Availability in the Federal Register; • BOEM press releases notifying 14 print news media outlets in RI and 8 in MA as well as social media announcements; • notification letters sent to state congressional members BOEM is currently working on developing a targeted approach to advance outreach and engagement with environmental justice and underserved communities on offshore wind, including through a pilot approach for the New York Bight area. BOEM is developing standard operating procedures and will apply lessons learned and tools developed through the pilot approach, including consideration of potential language needs, to enhance engagement for future OSW projects. BOEM welcomes feedback on our current activities and recommendations on how to improve engagement approaches for future activities. Please contact Jessica Stromberg , BOEM Office of Renewable Energy Programs, 45600 Woodland Road, Sterling, Virginia 20166, (703) 787-1730 or jessica.stromberg@boem.gov to get connected with our team to talk further.
BOEM-2022-0045-0113	13	Lastly, the DEIS references a recent survey of commercial fishing crewmembers in the northeastern U.S. that indicates that 13% of survey participants identified their race as Black, Asian, American Indian/Alaska Native or Native Hawaiian/Pacific Islander and 7% identified as Hispanic of Latino.44 BOEM should ensure that all mitigation methods related to commercial fishing impacts, including gear loss, are conducted in an accessible manner, including but not limited to language access.	Thank you for your comment. BOEM will consider language accessibility when reviewing fisheries mitigation communications.
BOEM-2022-0045-0103	14	EPA also recommends that BOEM prepare a publicly accessible community outreach plan focused on communities with environmental justice concerns impacted by the project. The draft DEIS references a "Fisheries Communications & Outreach Plan," but does not reference something similar for communities with environmental justice concerns. EPA recommends adding a discussion of the outreach activities that BOEM has completed and those under development/planned for affected communities.	BOEM agrees engagement with environmental justice and underserved communities is important for understanding potential impacts and mitigations related to offshore wind development. For Revolution Wind, opportunities for public input were provided through the NEPA scoping and DEIS public review process. Scoping meetings were held virtually in May 2022, and DEIS public review hearings were held in person at Aquinnah, MA, on October 4, 2022; East Greenwich, RI, on October 5, 2022; and New Bedford, MA, on October 6, 2022; as well as virtually on September 29 and October 11. Transcripts of all

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			meetings and recordings from virtual meetings are available at https://www.boem.gov/renewable-energy/state-activities/revolution-wind. Outreach for meetings included: • email notifications to 110 individuals who signed up during the public scoping for the project; • notifications and advertisements posted in six newspapers: The Standard Times (owned by South Coast Today), Gannet Media Group (MA), The Chronicle (CT), The Newport Daily News (RI), Vineyard Gazette, The Day (CT); • publication of the Notice of Availability in the Federal Register; • BOEM press releases notifying 14 print news media outlets in RI and 8 in MA as well as social media announcements; • notification letters sent to state congressional members BOEM is currently working on developing a targeted approach to advance outreach and engagement with environmental justice and underserved communities on offshore wind, including through a pilot approach for the New York Bight area. BOEM is developing standard operating procedures and will apply lessons learned and tools developed through the pilot approach, including consideration of potential language needs, to enhance engagement for future OSW projects. BOEM welcomes feedback on our current activities and recommendations on how to improve engagement approaches for future activities. Please contact Jessica Stromberg , BOEM Office of Renewable Energy Programs, 45600 Woodland Road, Sterling, Virginia 20166, (703) 787-1730 or jessica.stromberg@boem.gov to get connected with our team to talk further.
BOEM-2022-0045-0103	15	EPA recommends that BOEM identify a single point of contact to serve as a community liaison for communities affected by project construction and operation, including those with environmental justice concerns. The point of contact's email address and phone number should be widely advertised.	The Point of Contact for this project is provided in the Federal Register announcements for the project and other communications materials. BOEM welcomes feedback on our current activities and recommendations on how to improve engagement approaches for future activities. Please contact Jessica Stromberg , BOEM Office of Renewable Energy Programs, 45600 Woodland Road, Sterling, Virginia 20166, (703) 787-1730 or jessica.stromberg@boem.gov to get connected with our team to talk further.
BOEM-2022-0045-0103	16	The DEIS lists general mitigation measures for EJ concerns in Appendix F. As project details are refined, EPA reiterates the need to obtain community feedback to determine the appropriate mitigation measures for the proposed impacts.	Please see response to FDMS Submission # BOEM-2022-0045-0103, Comment # 13 for information on engagement and outreach for this project. A summary of outreach is also provided in EIA Appendix A.
BOEM-2022-0045-0086	32	Revolution Wind appreciates BOEM's efforts to assess the environmental impact of the alternatives on environmental justice populations in the GAA. However, the current assessment fails to fully capture project benefits resulting in the overall cumulative impact to environmental justice communities being "major adverse." We believe, that after fully considering the economic and health benefits, and mitigation efforts to limit harms, both the overall and alternative incremental impact to environmental justice communities for the Proposed Action should be revised.	BOEM maintains that the overall cumulative impact to environmental justice populations is accurately assessed in the EIS. The analysis of impacts of climate change on environmental justice populations is consistent with other offshore wind energy project analyses.
BOEM-2022-0045-0086	33	Aside from Native American landform and archaeological concerns, the DEIS seemingly makes the cumulative Major adverse determination for Environmental Justice (EJ) based on the fact that climate change is happening regardless of whether the project gets built and that EJ populations are generally more vulnerable from climate change. Revolution Wind disagrees with assessing cumulative climate change impacts outside the scope of ongoing and reasonably foreseeable projects.	BOEM maintains that the overall cumulative impact to environmental justice populations is accurately assessed in the EIS. The analysis of impacts of climate change on environmental justice populations is consistent with other offshore wind energy project analyses.
BOEM-2022-0045-0086	34	The agency should consider the investment in building a clean energy economy and well-paying jobs in its calculation of the Proposed Action's benefits. As explained in Section 219 of Executive Order (EO) 14008 (Tackling the Climate Crisis at Home and Abroad): "To secure an equitable economic future, the United States must ensure that environmental and economic justice are key considerations in how we govern. That means investing and building a clean energy economy that creates well-paying union jobs, turning disadvantaged communities — historically marginalized and overburdened — into healthy, thriving communities, and undertaking robust actions to	Thank you for your comment. A reference to Revolution Wind's supportive programs designed to provide craft-entry opportunities for minorities, women, and economically disadvantaged non-minority males has been added in Section 3.12 Environmental Justice. BOEM maintains that the employment benefits to environmental justice communities are accurately assessed in the

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		mitigate climate change while preparing for the impacts of climate change across rural, urban, and Tribal areas." The Proposed Action would provide just that – well-paying union jobs and stimulating disadvantaged communities. For example, in May 2022, North America's Building Trade Unions (NABTU) announced a Project Labor Agreement (PLA) with Ørsted to construct U.S. offshore wind farms with an American union workforce. The PLA, which applies to the Proposed Action and workers in the GAA, "sets the bar for working conditions and equity, injects hundreds of millions of dollars in middle-class wages into the American economy, creates apprenticeship and career opportunities for communities most impacted by environmental injustice, and ensures projects will be built with the safest and best-trained workers in America." 17 The DEIS states that "Some members of environmental justice populations are expected to experience these employment and income benefits, but the benefits would be no greater for environmental justice populations than those experienced by non-environmental justice populations residing in the GAA." Revolution Wind respectfully feels that this statement is not substantiated. BOEM should further consider the economic benefit to port communities, and members of environmental justice populations within those communities. For example, New London, Connecticut is identified in the GAA as having both a minority and low-income environmental justice populations. The Port of New London is further identified as containing a "major commercial fishing port" and containing or being "adjacent to staging port." The State Pier in the Port of New London is being transformed into a state-of-the-art, heavy- lift terminal that will serve as a wind turbine staging and assembly hub for Revolution Wind,18 And at least two additional wind farms in the region. The redevelopment of the State Pier is already creating jobs, including for Connecticut's building trades: 400+ well-paying construction jobs are anticipated by the project's completion in 2023. As a staging and assembly hub for offshore wind projects, vessel activity will significantly increase at State Pier and generate high-skilled, long-term employment in New London: 80- 120 well-paying offshore wind-related positions are anticipated to be created at the site. And this is but one example of economic development benefiting environmental justice communities in the GAA.	EIS. Benefits identified in EO 14008 apply to Federal investments, not private projects such as Revolution Wind.
BOEM-2022-0045-0086	35	In Section 3.12.1.1 Page 3.12-16 the DEIS states that "Therefore, adverse economic impacts to environmental justice populations engaged in commercial fisheries and for-hire recreational fishing would be long term moderate." This statement is not consistent with the conclusion of the preceding sentence that offshore wind "...would help ensure that fishing businesses could continue to operate with minimal disruption." In its calculation of economic harm, BOEM should also consider the extent to which any economic impacts of the Proposed Action to members of environmental justice populations engaged in commercial fisheries and for-hire recreational fishing are offset by fisheries compensation and mitigation funds.	BOEM maintains that an impact rating of moderate as defined in Table 3.3-1 in the EIS is consistent with the statement that mitigation measures would help ensure that most fishing businesses could continue to operate with minimal disruption.
BOEM-2022-0045-0086	37	We understand that climate change disproportionately impacts environmental justice communities, and that there will be some short-term greenhouse gas (GHG) emissions during project construction. However, the Proposed Action is a clean energy project with limited emissions during operation. More emphasis should be placed on the fact that the Proposed Action, in combination with other offshore wind energy projects, will reduce long-term impacts of climate change on environmental justice communities. Moreover, the alternatives that would result in infeasible projects smaller than the Project's PPA would have less of a benefit to the environmental justice communities, as fewer fossil fuel emissions would be displaced.	BOEM's analysis of impacts of climate change on environmental justice populations is adequate and consistent with other offshore wind energy project analyses. Refer to EIS Section 3.12 Environmental Justice for discussion of impacts of climate change on environmental justice populations.
BOEM-2022-0045-0100	91	Please include findings of Hoagland et al. (2015) which state that displacement of fishing vessels from Point Judith, RI and New Bedford, MA will impact a wider spatial area than would be expected, including communities inland. This study found communities in MA such as Boston, Fall River and Brockton, MA as well as Pawtucket, RI had highest level of impacts per household (see Figure 5 in article). "The figure reveals that five census tracts (colored in dark red) would bear the largest impacts, which, at ≥$140 year−1 would be an order of magnitude larger than those of the next group of impacted census tracts. These tracts (circled in Fig. 5) are located in Pawtucket (RI), Fall River (MA), Brockton (MA), between Boston South End and Fenway/Kenmore (MA), and between Mattapan and Roslindale (MA). Without providing analyses that will ensure all impacted communities are evaluated with the best available science, BOEM is not presenting an analysis that fully considers the impacts to underserved communities (most of the identified communities in this study have high levels of poverty and diversity). https://www.sciencedirect.com/science/article/pii/S0308597X15000871	BOEM's methodology for associating offshore impacts to commercial fisheries and for-hire recreational fishing to onshore impacts on environmental justice populations involves the use of geospatial data to: 1) identify the location of low-income and minority populations in the geographic analysis area using mapped spatial data obtained from the U.S. Census Bureau or through EJSCREEN, along with state-identified populations if available, 2) assessing the intensity of commercial and recreational fishing engagement or reliance within the same geographic analysis area with mapped spatial data developed by NOAA, and 3) identifying geographic locations in the analysis area where low-income and minority populations are present that also have high levels of commercial or recreational fishing engagement or reliance, to identify specific environmental justice populations that could be vulnerable to offshore impacts on commercial and recreational fishing. In addition, we have identified public fishing sites that are located in proximity to project infrastructure that could be temporarily disrupted during construction and potentially impact subsistence anglers. BOEM believes this methodology is a valid approach to associating offshore impacts to onshore environmental justice populations.

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			The Hoagland 2015 article analyzed a counterfactual scenario where offshore wind would completely displace commercial fishing and no economic impacts from the offshore wind development were considered. Despite these conservative assumptions about how impacts would be generated and attributed, the initial results found that welfare losses would be progressively distributed, such that mid- to high-income categories would likely bear the most significant impacts, and hence would not result in disproportionately high and adverse effects on low-income populations. The authors "adjusted welfare losses for society's aversion to income inequality", weighting impacts to give low-income groups more influence on the net utility impacts, a methodology untested in EIS applications. Given these issues with the analysis, BOEM has elected not to include this citation in the EIS.
BOEM-2022-0045-0100	93	The Marine Recreational Information Program (MRIP) provides a list of publicly accessible fishing sites. Underserved communities often practice subsistence fishing in low income areas. Thank you for including this information in the recreation and tourism section. However, impacts to subsistence fishing is listed in the DEIS as a potential unavoidable adverse impact of the Proposed Action and BOEM should make an effort in this section as well to identify those specific fishing sites that are within areas of environmental justice communities of concern, including a summary of these access sites within these communities. Consider noting which sites will be impacted and overlap with offshore wind infrastructure on land and cable placement during both construction and operation. See the Site Register here: https://www.st.nmfs.noaa.gov/msd/html/siteRegister.jsp	Information regarding public fishing sites that are located in proximity to project infrastructure that could be temporarily disrupted during construction and potentially impact subsistence anglers has been added.
BOEM-2022-0045-0100	94	Ensure that the conclusions on the impacts to fishing community members match those in section 3.9 Commercial and For Hire fisheries unless specific mitigation measures are established for limiting the impacts to underserved communities.	Thank you for the comment. Text edits have been made.

Marine Mammals

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BOEM-2022-0045-0005	1	My comment is really a question. When will BOEM be releasing the final report of the study that BOEM commissioned, on Right Whale migration, that should have been released in September of 2018? That study can be found within your organization at this link. https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/Understanding-Whale-Presence-in-the-Virginia-Offshore-Wind-Energy-Area-Using-Passive-Acoustic-Monitoring.pdf Why is the report 4 years late, how much overlap in study area, where do the Right Whales migrate north of the Virginia study area? Inquiring minds want to know.	Thank you for your interest. The study report is now available on the BOEM website. The FEIS relies on the best available data on North Atlantic right whale distribution and abundance to assess potential impacts of the project. Please refer to Section 3.15.1 for information about marine mammal occurrence on the Northwest Atlantic Outer Continental Shelf.
BOEM-2022-0045-0097	1	Attached comment submission includes non-codable text.	Attached comment submission includes non-codable text.
BOEM-2022-0045-0091	2	As the first offshore wind development to sign a Power Purchase Agreement with Connecticut, we are particularly interested in seeing the project fulfill its promise of delivering clean energy, providing good jobs, and enhancing the local economy. This requires, however, a careful balancing of the need to maximize energy output with minimizing disturbances to marine mammals and the marine environment. Avoiding, Minimizing and Mitigating Impacts to the North Atlantic Right Whale The North Atlantic right whale is a federal and state endangered species that is common within the Revolution Wind lease area and the path of the proposed export cable.5 The population size of this species is less than 350 individuals.6 The COP notes that the proposed Revolution Wind Farm lies within the seasonal North Atlantic right whale speed restriction area, which requires seasonal vessel speed reduction.7 In addition to complying with the seasonal speed restrictions, Revolution Wind has agreed to a number of proposed mitigation measures during the construction and installation phase of the project.8 These include: • Establishment of exclusion and monitoring zones for impact pile driving o Exclusion and monitoring zones for marine mammals and sea turtles will be established for impact and vibratory pile-driving activities. • Impact and vibratory piledriving mitigation measures o The following measures will be implemented for impact and vibratory pile-driving activities: § seasonal restrictions, soft-start measures, shutdown procedures, marine mammal and sea turtle monitoring protocols, the use of qualified and National Oceanic and Atmospheric Administration (NOAA)- approved Protected Species Observers, and noise attenuation systems such as bubble curtains, as appropriate. • MMPA application measures though a comprehensive monitoring and mitigation program, including but not limited to; o Noise attenuation through use of a noise mitigation system; o Seasonal restrictions; o Standard PSO training and equipment requirements; o Visual monitoring; including low visibility monitoring tools; o Passive acoustic monitoring; o Establishment and monitoring of shutdown zones; o Pre-start clearance; Ramp-up (soft-start) procedures; o Operations monitoring; o Operational shutdowns and delay; o Sound source measurements of at least one foundation installation; o Survey sighting coordination; o Vessel strike avoidance procedures; and o Data recording and reporting procedures. The broad descriptions of the mitigation measures above align with the mitigation practices for the North Atlantic right whale set forth in a publicly available agreement between Vineyard Wind and several national, regional, and local environmental organizations.9 We urge the Bureau of Ocean Energy Management (BOEM) to ensure that marine mammal mitigation measures, particularly those for the North Atlantic right whale are applied equally to all offshore wind projects in the northeast lease areas and are implemented consistently across those lease areas.	Thank you for your comment. All future actions would be subject to an independent NEPA analysis and regulatory approvals as the Proposed Action. BOEM would require all projects to incorporate the same types of Environmental Protection Measures included in the Proposed Action to avoid and minimize harmful noise effects.
BOEM-2022-0045-0101	2	Without knowing whether these construction projects will be staggered, we continue to be concerned about potential mass beaching events if all construction starts at the same time. The National Oceanic and Atmospheric Administration (NOAA) has indicated that they will follow their current stranding plan if this occurs; however, this feels vague to us. What is the full plan if these whales are beaching?	Thank you for your recommendation. BOEM will continue to coordinate with NMFS to determine appropriate mitigation measures. The applicant will adhere with all mitigation measures required as a condition of MMPA compliance.
BOEM-2022-0045-0098	3	Regarding Unexploded Ordinances, Fishing, Fishermen and NARWs Unexploded Ordinances (UXOs) are not a new threat to fishermen, however with the inclusion of boulder plowing and unearthing UXO's from previously buried areas within Southern New England, we do not believe that BOEM has effectively measured in the additional threats to the safety not only of fishermen and their fishing boats, but the overall boating public and safety at sea for those within the area of the Revolution Wind Farm and export cable, including new threats to fish populations in all life stages, and the newest neighbor to Southern New England, the North Atlantic Right Whale, (NARW.) As BOEM is well aware the NARW is now present within the RI-MA-WEA nearly 12 months of the year3 and a most recent 2022 study shows the NARW has returned to repatriate its former grounds in Southern New England4 Mitigation for the NARW during UXO detonation and pile driving via Passive Acoustic Monitors will not be effective NARW, that is known to echolocate far less than other baleen whales, even going so far as to when hearing ships, mother whales then cease their echolocations and in effect whisper to their young.	Thank you for your comment. BOEM will continue to coordinate with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures for all project impacts. As available, the FEIS has been updated to incorporate current best available information on marine mammal (specifically, NARW) occurrence within the project area.

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		In another 2022 study they confirmed the reduction in acoustic detection as a protection mechanism mothers employ to protect their young from predators "At three nursery sites across three continents in the southern hemisphere, results showed that the depth at which right whales are most commonly sighted has the most limited acoustic detection range for their calls." We believe BOEM must reevaluate the mechanism for mitigation for the NARW in Southern New England Revolution Wind Lease area, and reevaluate and analyze this data, and that it be reanalyzed in the DEIS section specific to North Atlantic right whales. It should also be independently peer reviewed. Also bubble curtains to be used during pile driving and UXO detonation are an ineffective mitigation method for low frequency hearing baleen whales such as the NARW, yet the DEIS uses that as a mitigation method when in fact BOEM acknowledged in a presentation to the Mid Atlantic Fishery Management Council that they do not work to lower impacts. BOEM must analyze and determine effective mitigation measures for this critically endangered species.	
BOEM-2022-0045-0102	3	MWT THPO Comments and Concerns · Not enough studies are available to determine how marine mammals such as the critically endangered NARW will be affected. Whales should have the right to live, and government has not adequately accounted for inevitable vessel strike issues. Construction vessels will need to function in the lease area, which entails increased feeder ship/vessel traffic that may put whales in harm's way.	Thank you for your comment. The analysis in the EIS is based on best available science, which includes extensive research on the impacts of offshore wind projects and marine mammal responses. The FEIS incorporated additional information regarding species occurrence and impacts, as available.
BOEM-2022-0045-0101	4	What are the expected cumulative effects of multiple and future projects on NARW threshold shift and migration patterns, and what are the potential synergistic effects of structure presence and low-level operational noise on the NARW?	Cumulative effects on marine mammals are addressed in Sections 3.15.1.1.1 and 3.15.2.2.3 of the EIS. Additional information about the projects considered under the cumulative impacts analysis is available in Appendix E3 of the EIS. The analysis concludes that the cumulative impacts of the Proposed Action combined with past, present, and reasonably foreseeable activities would constitute a moderate adverse impact on marine mammals in the geographic action area. The reader is kindly referred to the body of the EIS for additional detail.
BOEM-2022-0045-0102	4	The MWT THPO recommends the following: · Determine what long-term studies have been developed or proposed by Ørsted/Eversource and/or the National Marine Fisheries Service (NMFS) to monitor potential long-term adverse impacts on the NARW, such as avoidance behaviors and shifts in distribution due to habitat alteration.	Thank you for your recommendation. BOEM will consider funding additional monitoring efforts and assessment tools as needed to support future planning efforts.
BOEM-2022-0045-0119	4	Also the DEIS does not incorporate the newest science on the presence of North Atlantic right whales in the lease area, in two thousand and twenty-one researchers, including some from NOA Fisheries, and had a report published in the peer-reviewed Journal Endangered species Research that show the presence of North Atlantic right whales in the project area year round. This is not referenced or incorporated in the DEIS. So assumptions and assertions made in the DEIS about impacts to North Atlantic right whales, which are critically endangered species protected by the endangered species act, are completely erroneous. Um, The DEIS needs to go back and incorporate all of that information and update its analysis.	Thank you for your comment. The text has been reviewed and revised, as appropriate, to incorporate the most current occurrence information.
BOEM-2022-0045-0100	5	The significance criteria definitions remain vague, particularly the distinction between moderate and major impacts. In addition, intensity conclusions rely on elements of mitigation, but fail to provide a thorough analysis of those mitigation measures or an indication as to how and to what extent they will be required. The significance criteria, in combination with the ill-defined area of analysis for each resource, do not appear to adequately consider variations in the intensity or scale of impacts and how these factors may affect resources at the project, regional, or population levels. Consideration of both the scale and intensity of impacts in the definition and application of the significance criteria is necessary to support accurate impact conclusions and provide clear distinctions among action alternatives. We previously coordinated with BOEM to develop agreed upon resource-specific significance criteria for marine mammals; these criteria have not been incorporated but they should be applied in this analysis. Additionally, when applying significance criteria to reach an impact determination, the associated analysis should include sufficient detail to support those impact conclusions. Currently the analysis of effects does not consider the loss of ecosystem functions. While the quantitative loss of environmental elements (e.g., complex habitat) may be presented, overall the analysis does not provide a clear picture of what the effects of those spatial impacts and temporal losses mean for NOAA trust resources and the communities that rely on them. The current approach results in an analysis that makes the benefits and drawbacks among these alternatives indistinguishable.	Thank you for your comment. The NEPA significance criteria have been developed for consistent application across multiple offshore wind energy projects. As such, BOEM has retained these criteria, reviewed supporting information, and considered how those criteria are used to reach impact determinations for each resource as appropriate.
BOEM-2022-0045-0091	5	The DEIS describes Alternative 'F"; "Higher Capacity Turbines" as follows: The Higher Capacity Turbine Alternative, would comprise the construction and installation, O&M, and eventual decommissioning of a wind energy facility implementing a higher nameplate capacity WTG (up to 14 MW assumed for the analysis) than what is proposed in the COP (i.e., the Proposed Action). Key assumptions for	Thank you for your comment. The proposed alternatives were considered in light of best available science to appropriately weigh potential differences in

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		bounding this alternative include (1) the higher capacity WTG would fall within the physical design parameters of the PDE and (2) be commercially available to the Project proponent within the time frame for the construction and installation schedule proposed in the COP. BOEM did not identify any commercially viable turbines of a capacity higher than 14 MW that meet both criteria. The number of WTG locations under this alternative would be sufficient to fulfill the minimum existing PPAs (total of 704 MW and 56 WTGs with five "spare" WTG locations included). Using a higher capacity WTG would potentially reduce the number of foundations constructed to meet the purpose and need and thereby potentially reduce impacts to marine habitats and culturally significant resources and potentially reduce navigation risks. Under this alternative, BOEM could select the implementation of a higher capacity turbine in combination with any one alternative or a combination of the alternatives retained for detailed analysis in this EIS. Refer to Section 2.1.2, Section 2.1.3, Section 2.1.4, and Section 2.1.5 for figures. A higher capacity turbine design option would require almost 50% fewer turbine than the proposed action in order to meet the purpose and need of the project. A configuration using 59 12 MW turbines was presented as part of the COP (59 turbines versus 101 turbines), while the "Higher Capacity Turbine" alternative ("Alternative F") analyzed by BOEM presumed 56 high capacity turbines with a capacity of up to 14 MW. The 12 Id., Table 3.15.4. 5 ability to lessen the project's footprint and decrease the amount of construction and installation activity, while meeting the energy output goals of the project, should be thoroughly evaluated. While the DEIS identifies sound impacts and underwater impulsive noise is an issue of "particular concern" for marine mammals,13 the alternatives analysis appears to downplay the potential reduction in adverse impacts that would accompany the installation of significantly fewer wind turbines and the lessened pile-driving activity necessary to set the foundations. The DEIS states that Operational noise impacts under Alternatives C through F would be similar to those described for the Proposed Action (negligible to moderate adverse) but reduced in extent. Offshore WTGs produce continuous nonimpulsive underwater noise during operations, mostly in lower frequency bands below 8 kHz. The lowfrequency sounds produced by WTGs are within the range of hearing sensitivity and audible communication frequencies used by many species of marine mammals (NOAA 2018), indicating that this impact mechanism could be a potential source of behavioral and auditory masking effects on marine mammal species. However, the maximum predicted operational noise level would attenuate below the behavioral effects threshold for marine mammals within 120 feet of each turbine foundation, suggesting that behavioral and masking effects would occur within a small radius around each turbine. Vessels used for Project monitoring would produce noise, but the noise levels generated by these smaller Project vessels are below the hearing injury threshold of marine mammals; therefore, vessel noise from Project monitoring activities is not expected to result in injury-level effects. Due to the higher capacity of the turbines, there is potential for greater operational noise impacts around each individual turbine for Alternative F, although specifics of these impacts are not certain. Effects from Alternatives C through F would combine with similar effects resulting from the construction and installation, O&M, and decommissioning of other planned offshore wind projects on the mid-Atlantic OCS. Alternatives C through F would contribute an appreciable increase in underwater noise due to the installation of up to 93 foundations. HRG surveys, vessel engines, and operational noise from the WTGs would also contribute non-impulsive noise that could result in behavioral effects or displacement of marine mammals. On this basis, cumulative adverse effects on marine mammals resulting from underwater noise are likely to be minor to moderate adverse, varying by species.14 We recommend that BOEM give the installation of fewer, but higher capacity, wind turbines serious consideration, as this would demonstrably reduce the number of pile-driven foundations necessary for the project, thus providing, at a minimum, some attenuation of the duration that pile-driving activity would need to occur. Before dismissing such an alternative, BOEM should also seek clarity regarding the impacts of operational noise on marine mammals to determine whether such impacts form larger turbines outweigh the benefits of reduced pile driving activity. Reducing the number of turbines would also allow for consideration of spatial arrangements that might enhance avoidance, minimization, and mitigation opportunities for the benthic and marine habitat, such as those considered in alternative "C". It is important that the operational plan be flexible enough to be able to take advantage of improvements in technology that can help to avoid or mitigate potential environmental impacts.	impacts. Table 3.15-4 and Section 3.15.2.3 provide information comparing expected impacts under each of the proposed alternatives.
BOEM-2022-0045-0101	5	The MPTN finds the lack of information regarding the cumulative impacts of all wind farm projects within the Massachusetts/Rhode Island (MA/RI) wind energy area (WEA)—and other WEAs—on the NARW and other marine mammals concerning and unacceptable. The following proposed and approved MA/RI WEA wind farm applications for incidental harassment authorizations (IHAs) provide the per-project estimated Levels A and B incidental takes of NARWs: • Per Table 52 of the Updated Marine Mammals Density and Take Estimates for the Revolution Wind Offshore Wind Farm (noaa.gov), the RWF-requested Level B take 5-year total is 16.8 percent, with most occurring in Year 1 of construction (13.6 percent). This figure differs from that listed in Table 3.15-8 of the DEIS (9.5 percent). Table 50 of the Sunrise Wind Request for incidental take regs (noaa.gov) lists a requested Level B take 5-year total of 19.3 percent, with most occurring in Year 1 of construction (12.8 percent). • Table ES-1 of the New England Wind LOA Application (noaa.gov) lists Year-1 and Year-2 Level B takes of 23.9 percent and 24.7 percent, respectively. • The approved South Fork Wind Farm (SFWF) and Vineyard	Thank you for your comment. Cumulative effects on marine mammals are addressed in Sections 3.15.1.1.1 and 3.15.2.2.3 of the EIS, which include a discussion of concurrent construction impacts. Additional information about the projects considered under the cumulative impacts analysis is available in Appendix E3 of the EIS. The analysis concludes that the cumulative impacts of the Proposed Action combined with past, present, and reasonably foreseeable activities would constitute a moderate adverse impact on marine mammals in the geographic action area. Please refer to the responses to Comments 11 and 12 in comment submittal BOEM-2022-0045-0101 for additional response on the issue of cumulative impacts.

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		Northeast IHAs allow Level B takes of 13 and 40 NARW (3.5 and 10.8 percent), respectively. These projects, which are in close vicinity, have overlapping construction schedules and will experience concurrent installation activity.	
BOEM-2022-0045-0102	5	The MWT THPO recommends the following: · Develop mitigations for long-term and unanticipated impacts to the NARW caused by offshore wind farms.	Thank you for your comment. BOEM will continue to coordinate with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures for all project impacts.
BOEM-2022-0045-0059	6	It is both curious and unacceptable that BOEM has not included the newest and most accurate scientific analysis of critically endangered North Atlantic right whales' presence in the project area in the DEIS. We have attached the document, "Residency, demographics, and movement patterns of North Atlantic right whales Eubalaena glacialis in an offshore wind energy development area in southern New England, USA" by Quintana-Rizzo et al, published July 29, 2021 in Endangered Species Research along with our comments and request that its analysis be incorporated into BOEM's DEIS analysis regarding impacts to marine mammals. Surprisingly, a document search of the DEIS yields only a 2006 study by Quintana-Rizzo regarding bottlenose dolphins, while yielding no search results for the 2021 North Atlantic right whale article which is specific to the lease area being analyzed in the DEIS. Due to the fact that out of all marine mammals to be impacted by the Proposed Action, the North Atlantic right whale is the only critically endangered species, we request that it be given its own impacts section with specific and related analysis and alternatives. A NOAA press release dating from July 29, 2021 announcing the release of the Quintana-Rizzo et al. study states "Right whales are increasing their use of southern New England waters, including regions slated for offshore wind energy development, according to aerial survey data collected during the last decade. Offshore wind energy installations are proposed in waters off the south coasts of Massachusetts and Rhode Island…. "We found that right whale use of the region increased during the last decade, and since 2017 whales have been sighted there nearly every month, with large aggregations occurring during the winter and spring," said Tim Cole, lead of the whale aerial survey team at the Northeast Fisheries Science Center and a co-author of the study." 32 The study itself states, "Since 2017, whales have been sighted in the area nearly every month, with peak sighting rates between late winter and spring. Model outputs suggest that 23% of the species population is present from December through May, and the mean residence time has tripled to an average of 13 d during these months."33 According to study results, 87% of the current population had been sighted in the study area by the end of 2019, including mothers and calves, and conceptive and reproductive females important to the population.34 This is directly contradictory to the assertions of the Revolution Wind DEIS that "Due to the low relative densities of those species vulnerable to collisions compared to where the majority of the population is, there is a low risk of marine mammal vessel encounter" for the 1,936 round trips over the 2-year construction and installation period for the Proposed Action alone, never mind the cumulative impacts of adjacent and nearby projects.35 If an average of 23% of the North Atlantic right whale population, the population of a critically endangered species, is resident in the MA/RI Wind Energy Area for a good portion of the year, and the species is now present in the area year round, this is not an accurate assumption on BOEM's part. Neither would be an assertion that North Atlantic right whales are not vulnerable to vessel strikes. In fact, North Atlantic right whales are so vulnerable to vessel strikes that NOAA maintains both Seasonal Management Areas as well as Dynamic Management Areas (frequently implemented in the MA/RI Wind Energy Area where the Proposed Action is located) requiring vessels to travel at 10 kts or less.36 These restrictions have been for larger vessels in the past, but proposals to extend the mandatory speed restrictions to smaller vessels 35-65 feet in length are now underway due to the fact that vessel strikes are one of the primary causes of death and injury to the species.37 The DEIS estimates a maximum of 249 vessels on a daily basis during offshore wind construction in 2024, and 301 vessels in 2025.38 This is a high vessel strike hazard probability given the presence of whales in the area. In fact, the MA/RI Wind Energy Area, including the Proposed Action area, is the most densely populated area for North Atlantic right whales in the entire region. See the results of the Right Whale Density Model chart below, and included on page 4 of the attached NOAA Fisheries presentation to BOEM's Gulf of Maine Task Force on May 19, 2022, which we have attached with this comment: (see figure) BOEM must correct these inaccurate assumptions and related analysis related to North Atlantic right whales in the DEIS. We request that this information also be included in a Cumulative Impacts analysis. The DEIS relies heavily on passive acoustic monitoring (PAM) as a mitigation measure to downplay construction and vessel strike impacts on marine mammals, as well as UXO impacts, discussed below. However, specific to North Atlantic Right whales, this also falls short of necessary protections. According to peer reviewed scientific data, North Atlantic Right whale mother and calves in particular exhibit "acoustic crypsis", i.e. they exhibit reduced calling rates and reduced call amplitude compared to other whales as a way to minimize the attention of predators.39 PAM will therefore be an ineffective means of identifying and avoiding mothers and calves in the area. We have attached this data as part of our comment and request that it be included in analysis of a DEIS section specific to North Atlantic right whales as part of a Final EIS.	Thank you for your comment. The text has been revised to incorporate the current information and understanding about North Atlantic Right Whale (NARW) occurrence within the project area and potential impacts associated with noise and vessel traffic. Additionally, the discussion of mitigation measures has been reviewed and revised, as necessary, to appropriately characterize anticipated protections for NARW.

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		The 2021 Quintana-Rizzo et al paper clearly details that mother and calf pairs are found in the project area. No takes of this species are allowable under the Endangered Species Act. It is not reasonable to assume that PAM will be an adequate mitigation measure specific to critically endangered North Atlantic right whales considering the attached science. BOEM must include mitigation measures that will address impacts specific to right whales, which should be analyzed in its own section of the DEIS. The DEIS similarly relies heavily on bubble curtains to mitigate the effects of pile driving and UXO detonation. For example, the DEIS concludes that bubble curtains will be effective at minimizing effects to marine mammals and ESA listed species from UXO detonation on page 3.15-11. Appendix F, "Environmental Protection Measures, Mitigation and Monitoring" lists bubble curtains on pages F-7 and F-8 as the mitigation measure for marine mammals related to construction and installation's impact and vibratory pile driving. However, BOEM already knows that bubble curtains do not protect North Atlantic right whales from impacts. Bubble curtains were designed to mitigate effects for high frequency marine mammals. At its Renewable Energy Program Update Briefing for the Mid Atlantic Fisheries Management Council on February 11, 2021, attached, BOEM's presentation openly stated "Low frequency sound (<200Hz) is not reduced by the bubble curtain".40 Therefore, as low frequency species- and noted as such in the DEIS- North Atlantic right whales will not benefit from bubble curtains. Right whales' acoustic signals and acoustic sensitivity are below 200 Hz.41 As such, North Atlantic right whales are at a risk of hearing loss and other permanent impacts despite the use of bubble curtains during pile driving and UXO detonation activities. This is not acceptable, particularly for an ESA listed species. BOEM must demonstrate effective mitigation measures specific to low frequency marine mammals, and specifically the critically endangered North Atlantic right whale. BOEM already divides marine mammals into low frequency, mid frequency and high frequency cetacean categories in the DEIS, for example in Table 3.15-2 on page 3.15-7. It lists North Atlantic right whales in the low frequency category. BOEM already acknowledges that there are differences between the species. Therefore, it cannot apply the same mitigation measures to all species when it knows that mitigation measures such as bubble curtains designed for high frequency mammals will not work for low frequency mammals. This is unreasonable, arbitrary and capricious, especially considering that BOEM already possesses the information and analysis to make this connection and distinction. Footnote 32: See https://www.fisheries.noaa.gov/feature-story/right-whale-use-southern-new-england-wind-energy-areas-increasing. Footnote 33: Quintana-Rizzo et al., "Residency, demographics, and movement patterns of North Atlantic right whales Eubalaena glacialis in an offshore wind energy development area in southern New England, USA", Endangered Species Research, Vol. 45: 251-268, July 29, 2021. Footnote 34: Quintana-Rizzo et al., "Residency, demographics, and movement patterns of North Atlantic right whales Eubalaena glacialis in an offshore wind energy development area in southern New England, USA", Endangered Species Research, Vol. 45: 251-268, July 29, 2021, p. 257, 251. Footnote 35: DEIS, p. 3.15-38. Footnote 36: See https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales. Footnote 37: See https://www.noaa.gov/news-release/noaa-proposes-new-vessel-speed-regulations-to-protect-north-atlantic-right-whales. Footnote 38: DEIS, p. 3.16-8. Footnote 39: Parks et al., "Acoustic crypsis in communication by North Atlantic right whale mother-calf pairs on calving grounds", Biology Letters, 16 September 2019, also attached with our comment. Footnote 40: See https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/602d7bbd49ee2d06d9db12c4/1613593539206/05a_BOEM+Renewables+Program+Update+2021-02.pdf, p. 21 of 23. Also attached as part of this comment. Footnote 41: Quintana-Rizzo et al., "Residency, demographics, and movement patterns of North Atlantic right whales Eubalaena glacialis in an offshore wind energy development area in southern New England, USA", Endangered Species Research, Vol. 45: 251-268, July 29, 2021, p. 253.	
BOEM-2022-0045-0101	6	Recommended Action Items The MP-THPO recommends the following: • Determine how developers across all projects under construction will manage and coordinate installation activities (e.g., pile driving) to avoid or reduce the cumulative impacts to whales and other marine mammals.	Thank you for your comment. Please refer to the responses to Comments 11 and 12 in FDMS Submission # BOEM-2022-0045-0101 for a discussion of the assessment of cumulative impacts and coordination of developers.

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BOEM-2022-0045-0102	6	The MWT THPO recommends the following: · Determine how developers across all projects under construction will manage and coordinate installation activities (e.g., pile driving) to avoid or reduce impacts to whales and other marine mammals.	Thank you for your comment. All future actions would be subject to an independent NEPA analysis and regulatory approvals as the Proposed Action. BOEM would require all projects to incorporate the same types of Environmental Protection Measures included in the Proposed Action to avoid and minimize harmful noise effects.
BOEM-2022-0045-0119	6	i'm going to concur with the the last speaker specifically about the North American right right whale, which is listed critically endangered. There's no efforts in the DEIS specifically for the North American right whale. All that is termed under there is marine mammals, which is uh it that uh makes uh very little sense when um this is a critically endangered marine mammal one of the most critically endangered species in the world has been since the one thousand nine hundred and seventys. There's only three hundred and fifty individuals left on earth, and hundred of only a hundred are females, so uh, this should have it a a separate heading of what the damage um are there Takings not. Nothing is under there. Uh, this is. This is the the biggest issue with these windmills number. That's uh, not even addressed specifically. So i'm. I was really upset to see that that wasn't in there, and just the stating of how critical the this animal is, and once they're gone, they're gone forever. Extinction is the end, and that is our main problem.	Thank you for your comment. While the EIS does not include a section specific to the North Atlantic right whale, the document appropriately considers the current status of the population in the analysis (including noise impact modeling) and conclusions. The reader is kindly referred to the Conclusions sections within Section 3.15, specifically Section 3.15.2.2.4, for a discussion of specific conclusions for North Atlantic right whale.
BOEM-2022-0045-0059	7	According to the DEIS, "Orsted anticipates that up to 13 UXOs, ranging from 5 to 1,000 pounds in size, may need to be detonated in place."42 This is an astonishing statement considering the consistent numbers of a critically endangered species inhabiting the project area. However, the estimated detonation number may in reality be higher. As noticed by Orsted in its most recent Mariners Briefing email, attached, there are now 17 UXO that have been identified by Orsted in conjunction with its Revolution Wind activities (despite the title of the email, attached, being identified as "South Fork Wind Seabed Preparation"). It is also astonishing that in Table 3.15-7 on page 3.15-30 of the DEIS, entitled "Estimated Number of Marine Mammals Experiencing a Permanent Threshold Shift from Worst-Case Scenarios for Construction-Related Impact Pile Driving and Unexploded Ordinance Detonation Exposure" that BOEM expects impacts from UXO detonation and pile driving activities only to non-ESA listed species. For example, BOEM expects 8 humpback whales to be impacted. However, humpback whales are only transitory through the project area and not present year-round, as are North Atlantic right whales. Yet BOEM expects no impacts to North Atlantic right whales from these activities? How can a species not present consistently in the area be impacted, while a species present year around with some of its highest density levels in and around the project area not be impacted? Not surprisingly, BOEM's only source for its DEIS analysis of these impacts is a single document, prepared by the developer, entitled "Petition for Incidental Take Regulations for the Construction and Operation of the Revolution Wind Offshore Wind Farm".43 It is not surprising that the developer analysis will omit impacts to ESA listed species, as to acknowledge them would be to risk approval of the project. However, BOEM has a legal duty to fully and independently analyze impacts, which it has not done. BOEM cannot simply cite one source- the developer's petition for an incidental take permit- as its only analysis for impacts to or takes of marine mammals as a result of UXO detonation as well as construction activities. This is obviously a conflict of interest. Additionally, BOEM cannot ignore and/or omit peer reviewed science which shows high concentrations of North Atlantic right whales year-round in the project area, i.e. the Quintana-Rizzo paper attached with this comment, in favor of non-peer reviewed science submitted by the developer. We request that this entire section of the DEIS be re-analyzed with independent and peer reviewed information. According to page 3.15-27 of the DEIS, the UXO detonation distance to peak injury threshold for low frequency marine mammals such as North Atlantic right whales is up to half a mile away from the detonation site.44 The distance to cumulative injury threshold for low frequency marine mammals is up to 2.65 miles away, and the distance to behavioral or cumulative temporary hearing threshold shift (TTS) effect threshold is up to 8.3 miles away from the detonation site.45 The document notes 13 detonation sites, however, based on the current 17 UXOs discovered by the Revolution Wind survey vessels, this may in fact be inaccurate. An 8.3 mile radius is a large area to monitor for every UXO detonation. However, a temporary hearing threshold shift for North Atlantic right whales could easily make these whales vulnerable to vessel strikes and other hazards while impaired. We request that BOEM explain how it proposes to monitor the entire 8.3 mile radius for right whale presence during detonation, what mitigation measures other than PAM and bubble curtains (which as discussed previously are ineffective mitigation for low frequency marine mammals such as right whales according to BOEM's own data) it plans to require during detonation so as to protect right whales, and/or how BOEM proposes to ensure that no vessel traffic occurs in the area until any potential UXO- induced TTS has subsided for the animals. We also note that the above distances of half a mile, 2.65 miles and 8.3 miles detailed by BOEM's chart in the DEIS as distances from detonation site for peak and cumulative permanent and temporary hearing threshold shift (PTS and TTS) for marine mammals are calculated solely by a document paid for and prepared by the developer, entitled "Underwater Acoustic Modeling of Detonations of	Thank you for your comment. The FEIS has been reviewed and revised to incorporate the most current information on marine mammal occurrence within the project area and potential risk from UXOs. BOEM will continue to coordinate with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures for all project impacts. The applicant will adhere with all required mitigation measures as a condition of MMPA compliance.

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		Unexploded Ordinance (UXO) for Orsted Wind Farm Construction, US East Coast."46 Again BOEM utilizes only developer data as the primary source of impacts, when such data clearly is being prepared by an entity possessing a conflict of interest. As a mere footnote to the quoted developer data included in the DEIS, BOEM states, "NOAA uses the larger cumulative threshold distance to assess potential PTS and TTS exposure resulting from UXO detonation…PTS injury and TTS exposure acreages could occur within a 46,139 to 567,221-acre zone of potential exposure within and around the maximum work area for the RWF and RWEC, varying by hearing group and type of exposure."47 This is a tremendous statement to relegate to a footnote. According to the data used by NOAA, the cumulative threshold distance for PTS and TTS from the UXO detonation site is up to 886 square miles (567,221 acres)! BOEM does not explain why it has chosen to use developer generated data to assess impacts to marine mammals, including critically endangered species, rather than NOAA data. This is particularly surprising given the fact that NOAA is the agency federally charged with protecting marine mammals. We request that BOEM explain its rationale for this decision. It is unclear how BOEM can effectively mitigate impacts over an area of this size, as it will be impossible to visually monitor and PAM/bubble curtains will be ineffective for low frequency marine mammals. We request that BOEM conduct a further analysis in the DEIS utilizing the NOAA distances and associated necessary mitigations and monitoring for marine mammals, particularly endangered North Atlantic right whales, for UXO detonation. Additionally, the DEIS states that, "UXO detonation may also result in non-auditory injury (i.e. lung and gastrointestinal tract compression injuries)."48 These impacts should be treated differently than hearing threshold impacts and contain detailed analysis, particularly for critically endangered North Atlantic right whales. The Revolution Wind DEIS, following this statement regarding lung and intestinal tract compression injuries, notes, "A detailed discussion of noise impacts on marine mammals is provided in Vineyard Wind final EIS Section 3.4.1.1.1 (BOEM 2021b)."49 However, neither the Vineyard Wind Final EIS Section 3.4.1.1.1, "Marine Mammals", nor anywhere else in the Final EIS mentions UXO detonation. A word search of the Vineyard Wind Final EIS for the term "UXO" yields the result, "No matches were found". Therefore, the Vineyard Wind FEIS, upon which the ROD is based, did not analyze UXO detonation at all. This would seem to be arbitrary and capricious on behalf of BOEM for that project, considering that the Vineyard Wind COP Easement Approval Letter contains a section on surveying for UXO, meaning that BOEM expected UXO discovery to be reasonably foreseeable as a result of construction activities.50 It is particularly concerning considering that Vineyard Wind has in fact unearthed a 1000 lb UXO, which is discussed below in more detail. For the Revolution Wind DEIS, BOEM cannot reference the Vineyard Wind FEIS relative to impacts of UXO detonation on marine mammals when the Vineyard Wind FEIS did not analyze these impacts. We request that BOEM conduct a full analysis of non-auditory injury impacts to marine mammals from UXO detonation, with a separate section for North Atlantic right whales, and include this in an updated and revised DEIS for Revolution Wind. Footnote 42: DEIS, p. 3.6-40. Footnote 43: See reference in Table 3.15-7 to "LGL (2022)" and corresponding reference on DEIS page B-19, "LGL Ecological Research Associates (LGL). 2022. Petition for Incidental Take Regulations for the Construction and Operation of the Revolution Wind Offshore Wind Farm. Prepared for Revolution Wind LLC, Orsted, and Eversource. Bryan, Texas: LGL Ecological Research Associates." Footnote 44: DEIS, p. 3.15-27; the chart states 2,776 feet which is 0.52 miles. Footnote 45: DEIS, p. 3.15-27; the chart states 14,009 feet and 44,291 feet, which are 2.65 and 8.3 miles, respectively. Footnote 46: Hannay, D., and M. Zykov. 2021. Underwater Acoustic Modeling of Detonations of Unexploded Ordnance (UXO) for Ørsted Wind Farm Construction, US East Coast. Silver Spring, Maryland: JASCO Applied Sciences. Footnote 47: DEIS, p. 3.15-27, footnote #. Footnote 48: DEIS, p. 3.15-28. Footnote 49: DEIS, p. 3.15-28. Footnote 50: See Section 2, p. 3-6 of the Vineyard Wind COP and Project Easement Approval Letter at https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf	
BOEM-2022-0045-0101	7	• Investigate how NARW exposure to underwater construction noise can be further reduced.	Thank you for your comment. Given the population status, NARW is a species of concern and impacts from underwater construction noise will be minimized to the extent practicable and in coordination with NMFS. The final list of Environmental Protection Measures (EPMs) and additional mitigation measures was presented in Appendix F of the FEIS.

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BOEM-2022-0045-0102	7	Additionally, Appendix C of the DEIS states that "BOEM determined that the overall costs of obtaining the missing information for or addressing uncertainty of the above topics for marine mammals are exorbitant or that the means to obtain it are not known." BOEM, therefore, "extrapolated or drew assumptions from known information for similar species and/or situations, as presented in Section 3.15 of the EIS." Because of the cultural and spiritual importance of the NARW, the MWT THPO does not accept this resolution and thus recommends the following: · Quantitatively determine the anticipated cumulative effects of multiple and future projects on NARW threshold shift and migration patterns as well as the potential synergistic effects of structure presence on the NARW. (Per DEIS Appendix C, the geographic analysis area may contain up to 3,110 new structures (WTGs and offshore substations (OSSs)) in a worst-case, cumulative impact scenario.)	Thank you for your comment. The FEIS considers the best available data and information for the cumulative effects, consistent with NEPA requirements.
BOEM-2022-0045-0069	7	Minimize impacts to birds, sea turtles, and marine mammals, especially the critically endangered North Atlantic right whale (Eubalaena glacialis). o Southern New England has been identified as a significant foraging ground for right whales during their migrations. Significant measures have been taken to improve their population status via commercial lobster fishing restrictions. Additional commercial fishing measures are being evaluated by the Atlantic Large Whale Take Reduction Team, in addition to vessel speed requirement, to meet additional risk reduction targets. As such, the project should take the necessary actions to ensure it does not counteract these efforts. o Impact minimization could occur through, but is not limited to, construction time of year restrictions and exclusion zones, vessel speed restrictions (applied to all vessels associated with the wind farm), and noise mitigation measures. Sound scientific data collection and monitoring of the wind energy area is also essential to evaluating potential effects in real-time to enable implementation of adaptive management measures.	Thank you for your comment. The proposed Environmental Protection Measures (EPMs) and additional mitigation measures are intended to avoid and minimize impacts to species, including NARW, to the extent practicable. The reader is kindly referred to Appendix F of the EIS for a full list of the proposed EPMs and additional mitigation measures.
BOEM-2022-0045-0091	8	Save the Sound appreciates that special attention has been paid to develop recommendations to protect the North Atlantic right whale, one of the world's most endangered species, from the risk of excessive underwater sound and collision with vessels. It appears, however, that much work is yet to be done with respect to the impact of underwater sound on this species16, and we recommend ongoing research into these impacts to inform this and other projects.	Thank you for the comment. The field of underwater sound and impacts to marine mammals continues to evolve (e.g., Ruppel et al. 2022) and ongoing research is expected to continue to inform other offshore wind projects.
BOEM-2022-0045-0101	8	• Develop a response plan for assisting beaching whales and other large mammals in returning to and remaining in open waters.	Thank you for your recommendation. BOEM will continue to coordinate with NMFS to determine appropriate mitigation measures.
BOEM-2022-0045-0102	8	· Determine the impacts of reef effect and hydrodynamics on prey and forage availability as well as predator-prey interactions.	The potential implications of the presence of structures with regards to reef effects and hydrodynamics has been assessed under the Presence of Structures IPF. Additional information is available within Sections 3.6.1.1.1 (on invertebrates) and 3.13.1.1.1 (on finfish) of the EIS.
BOEM-2022-0045-0101	9	• Determine the likelihood of long-term, WTG-generated noise producing avoidance behaviors in low-frequency cetaceans such as the NARW.	Thank you for your comment. The EIS relies on best available science to assess potential impacts of operational noise on marine mammals like NARW. The reader is kindly referred to the Noise IPF subsection in Section 3.15.2.2.2 for a discussion of available information regarding operational noise impacts on marine mammals.
BOEM-2022-0045-0102	9	NARWs and other whales are so reliant on sound. What effect will project construction noise such as that created by pile driving have on them?	The noise impacts on marine mammals associated with project construction are fully assessed and described in the Noise IPF subsections within Sections 3.15.2.1, 3.15.2.2, and 3.15.2.3. The reader is kindly referred to these sections.
BOEM-2022-0045-0101	10	• Determine the potential for a long-term shift in large whale distribution in the geographic analysis area (GAA) due to habitat alteration.	The potential for long-term shifts in habitat use within the geographic analysis area is complex and dependent on a wide range of factors. The text has been revised to incorporate additional information about shifting habitat use, as available. Given the complexity of the issue, the EIS does not speculate about specific expected habitat shifts within the analysis area. The analysis is based on the best publicly-available science.
BOEM-2022-0045-0102	10	Determine how developers across all projects under construction will manage and coordinate installation activities (e.g., pile driving) to avoid or reduce the cumulative impacts to whales and other marine mammals.	Thank you for your comment. All future actions would be subject to an independent NEPA analysis and regulatory approvals as the Proposed Action. BOEM would require all projects to incorporate the same types of

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			Environmental Protection Measures included in the Proposed Action to avoid and minimize harmful noise effects.
BOEM-2022-0045-0101	11	• Quantitatively determine the anticipated cumulative effects of multiple and future projects on NARW threshold shift as well as the potential synergistic effects of low-level operational noise on the NARW. o Appendix C of the DEIS states that "BOEM determined that the overall costs of obtaining the missing information for or addressing uncertainty of the above topics for marine mammals are exorbitant or that the means to obtain it are not known." BOEM, therefore, "extrapolated or drew assumptions from known information for similar species and/or situations, as presented in Section 3.15 of the EIS." Because of the cultural and spiritual importance of the NARW, the MP-THPO does not accept this resolution. o Per DEIS Appendix C, the geographic analysis area may contain up to 3,110 new structures (WTGs and OSSs) in a worst-case, cumulative impact scenario.	Thank you for your comment. The FEIS considers the best available data and information for the cumulative effects, consistent with NEPA requirements.
BOEM-2022-0045-0102	11	Investigate how NARW exposure to underwater construction noise can be further reduced.	Thank you for your comment. Given the population status, NARW is a species of concern and impacts from underwater construction noise will be minimized to the extent practicable. The final list of Environmental Protection Measures (EPMs) and additional mitigation measures is presented in Appendix F of the FEIS.
BOEM-2022-0045-0119	11	So uh, addressing this impact to uh the North Atlantic right whale, um will likely um change some of the outcomes of the uh the alternative analysis. Um, you know, we'll note uh the Vineyard Wind Project um, which actually entered into a uh agreement with the number of national environmental organizations to minimize impacts with the North Atlantic right whales um change their proposal based upon advances in technology um to increase their turbine size uh from the original nine and a half megawatts um to twelve to thirteen megawatts. Uh we're able to shrink the number of proposed turbines from eighty-four to sixty-two um and that's going to require a lot less pile driving um, and a lot less sonic.	Thank you for your comment. As per ESA/MMPA consultations, this project proposes a number of specific avoidance and minimization measures designed to limit impacts to the North Atlantic right whale (NARW). As described in Appendix F of the EIS, Environmental Protection Measures (EPMs) and additional mitigation measures specifically related to NARW include, but are not limited to: noise attenuation, visual monitoring, passive acoustic monitoring, soft-start procedures, reporting of all sightings, and seasonal restrictions for pile driving.
BOEM-2022-0045-0101	12	• Determine the cumulative impacts of the following to the NARW population: o The RWF/RWEC, SFWF, Sunrise Wind, and Vineyard Northeast projects, each of which are scheduled to commence in 2023. o Additional proposed offshore wind projects.	Thank you for your comment. The FEIS considers the best available data and information for the cumulative effects, consistent with NEPA requirements. Please refer specifically to Appendix E for information regarding the scope of activities considered in the cumulative impacts assessment.
BOEM-2022-0045-0102	12	Collect data on the following: o Long-term movement or acoustic exposure of low-frequency cetaceans (e.g., whales) in or around offshore wind farms. o The long-term effects of habitat alteration due to the installation of an offshore wind farm. o The responses of large whale species to the presence of offshore wind farms.	Thank you. Please refer to the response to Comment 4 in FDMS Submission # BOEM-2022-0045-0102 for information about proposed monitoring and research efforts on NARW and other marine mammals.
BOEM-2022-0045-0102	13	Develop contingency plans if research concludes that wind farm construction and operations activities will have greater short- and/or long-term effects on marine mammals, especially the critically endangered NARW.	Thank you for your recommendation. BOEM will consider funding additional monitoring efforts and assessment tools as needed to support future planning efforts.
BOEM-2022-0045-0102	14	Quantitatively determine the anticipated cumulative effects of multiple and future projects on NARW threshold shift as well as the potential synergistic effects of low-level operational noise on the NARW. o Appendix C of the DEIS states that "BOEM determined that the overall costs of obtaining the missing information for or addressing uncertainty of the above topics for marine mammals are exorbitant or that the means to obtain it are not known." BOEM, therefore, "extrapolated or drew assumptions from known information for similar species and/or situations, as presented in Section 3.15 of the EIS." Because of the cultural and spiritual importance of the NARW, the MWT THPO does not accept this resolution. o Per DEIS Appendix C, the geographic analysis area may contain up to 3,110 new structures (WTGs and OSSs) in a worst-case, cumulative impact scenario.	Thank you for your comment. The FEIS considers the best available data and information for the cumulative effects, consistent with NEPA requirements.
BOEM-2022-0045-0102	15	Determine the cumulative impacts of the following to the NARW population: o The RWF/RWEC, SFWF, Sunrise Wind, and Vineyard Northeast projects, each of which are scheduled to commence in 2023. o Additional proposed offshore wind projects	Thank you for your comment. The cumulative impacts analysis in the FEIS relies on the best available data and information for the cumulative effects, consistent with NEPA requirements. The potential for concurrent pile driving

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			under currently available construction schedules for proposed projects is considered.
BOEM-2022-0045-0110	31	Beyond the monitoring measures already contemplated, BOEM, in consultation with Rhode Island and Massachusetts fishery managers and NMFS, should determine whether other monitoring measures are needed to document and determine impacts to benthic habitat, invertebrates, finfish, and EFH from the Revolution Wind project.	Thank you for your comment. Appendix F of the Final EIS has been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM fully supports regional monitoring and coordination with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures and will incorporate results in future decisions.
BOEM-2022-0045-0110	32	Many marine mammal and sea turtle species are under extreme stress due to climate change, vessel traffic and collisions, entanglement with fishing gear, underwater noise pollution, and other changes in the marine environment. It is critical to the health of many of these species that we not only transition away from climate warming fossil fuels to renewable resources such as offshore wind, but also that we develop offshore wind resources in a way that does not add additional stress or exacerbate other existing environmental stressors. To comply with the 2005 amendments to the Outer Continental Shelf Lands Act (OCSLA), BOEM must ensure that all activities related to renewable energy development on the OCS are "carried out in a manner that provides for…protection of the environment."125 BOEM's regulations under those amendments require Revolution Wind to plan and conduct the project in a manner that does not cause "undue harm or damage" to natural resources or wildlife.126 The project must comply with the federal Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA), including the MMPA least practicable adverse impact standard for all marine mammal species, before any activities are undertaken.127 BOEM is also obligated by NEPA to consider the full range of potential impacts on all marine mammal and sea turtle species. We recommend BOEM review the mitigation measures we provide in Attachment 1 and incorporate them into the requirements for Revolution Wind 1's development.	Thank you for your comment and recommendation. BOEM is working closely with NMFS to determine appropriate mitigation measures, including vessel speed reductions, and the use of real-time PAM and PSOs. The final mitigation measures that are determined to be most effective will be developed through the ESA and MMPA processes and will be identified in the ROD and required of the developer.
BOEM-2022-0045-0110	33	There are several important issues with the occurrence data and designations ("rare", "common", "regular") as well as with the literature and research used by the developer and BOEM to support conclusions about occurrence in the Project Area, seasonal occurrence, and abundance and density of species. In particular, we note a number of errors below within Table 3.15-1: Frequency of Marine Mammal Species Occurrence in Northwest Atlantic Outer Continental Shelf and Likelihood of Occurrence in the Revolution Wind Farm and Revolution Wind Farm Export Cable131 where site-specific data derived from site assessments and geological and geophysical surveys are missing from BOEM's occurrence analysis.	Thank you for your comment. Table 3.15-1 incorporates best available science on species occurrence within the Project Area. Available site-specific data has been reviewed and information updated, as necessary.
BOEM-2022-0045-0110	34	Additionally, BOEM does not provide a detailed assessment of marine mammal species occurrence in the Project Area but instead refers the reader to the COP Appendix Z (CSA Ocean Associates 2021) and NOAA's 2020 stock assessment report (Hayes et al. 2021) for detailed information on marine mammals in the entire geographic analysis area. The only Project Area-specific occurrence info provided is a "Yes" or "No" designation in Table 3.15-1 on pages 3.15-5 and 3.15-6.	For the sake of brevity and clarity of the analysis, the EIS provides a single designation of occurrence for each species and refers the reader to additional available data. Presented information is based on best available science and is intended to sufficiently support the EIS analysis.
BOEM-2022-0045-0110	35	Further, for estimations of the number of marine mammals expected to experience hearing loss as a permanent threshold shift (PTS) or temporary threshold shift (TTS) (Tables 3.15-7 and 3.15-8), BOEM references the Petition for Incidental Take Regulations for the Construction and Operation of the Revolution Wind Offshore Wind Farm, but does not provide a description of how these estimates were derived. The reader must review the Petition to find out that the estimates were derived from the older Roberts et al. models.132	Thank you for your comment. The text has been revised to provide a high-level description of how the estimates were derived. However, for the sake of brevity, the EIS refers the reader to the Petition for Incidental Take Regulations for additional detail.
BOEM-2022-0045-0110	36	Descriptions of species-specific occurrence in the Project Area should be provided in the FEIS and supported by primary sources and peer-reviewed literature, and Tables 3.15-1, 3.15-2, and 3-19.1 should be edited to incorporate more accurate and well-defined designations of occurrence and project-specific abundance estimates based on the latest Roberts et al. models.133	Thank you for the comment. Additional occurrence data has been incorporated into the information presented in Tables 3.15-1 and 3.15-2, as appropriate. For the sake of brevity, the EIS refers the reader to other project documentation for additional details on species-specific occurrence.
BOEM-2022-0045-0110	37	Specific concerns with Table 3.15-1 include the following: Occurrence in the Northwest Atlantic OCS: BOEM cites Kenney and Vigness-Raposa (2010)134 for this information. However, this study was specific to the Rhode Island Study Area and does not include occurrence designations for all marine mammal species along the entire Northwest Atlantic OCS. As this is not an appropriate reference, it is unclear how BOEM then derived the "common", "regular", and "rare" occurrence definitions from this study.135 Additionally, for some species the references provided are incomplete: the	The occurrence information presented in the EIS is based on the best publicly available science and has been updated with the most current data. The EIS additionally incorporates available information on the potential for habitats to shift in the future due to climate change. This approach relies on best available data, reduces speculation, and meets the purpose and need of the EIS.

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		Northeast Fisheries Science Center (NEFSC) and Southeast Fisheries Science Center (SEFSC) (2018)136 only includes Atlantic Marine Assessment Program for Protected Species (AMAPPS) sightings data from 2010-2017, Davis et al. (2020)137 does not include sightings data, and CSA Ocean Sciences Inc. (2021)138 is not a primary source for occurrence information. BOEM must use relevant primary sources to support its analysis, rather than the secondary sources cited throughout the DEIS. We recommend that BOEM use occurrence designations that are based on known habitat associations, confirmed sightings, and the potential for occurrence regardless of how abundant or common a species is. This conservative method of designated occurrence ensures that occurrence is not based solely on sightings data which may be lacking for some species due to less survey effort during poor weather conditions and times of year when some species may be more prevalent off Rhode Island.	
BOEM-2022-0045-0110	38	Specific concerns with Table 3.15-1 include the following: Annual (Peak) Occurrence: BOEM's categorization of annual peak occurrence of marine mammal species is unclear and confusing and lacks a coherent explanation. With no definitions included for the designations it is not possible to determine whether the Northeast Atlantic or the Project Area is provided. The seasons (months/ dates) are also unexplained. BOEM references data from NEFSC and SEFSC (2018)55 and Davis et al. (2020)56 for this information, but it remains confusing as to what region the occurrence designations are for since they are not consistent with Project Area-specific information. For example, occurrence for humpback whales is listed as year-round with a peak in winter and spring. Humpback whales are known to occur on the Northwest Atlantic OCS year-round, but peak occurrences are variable throughout the OCS. For instance, peak acoustic detections of humpbacks have been noted off Virginia in January-May and off North Carolina in October-January (Davis et al. 2020)56, and peak abundances based on AMAPPS 2010-2017 sightings data vary across wind energy areas with a peak Rhode Island/Massachusetts presence in March-May and a peak off North Carolina in December-February (NEFSC and SEFSC 2018).55 AMAPPS 2010-2017 surveys recorded humpback whales in or near the Rhode Island/Massachusetts wind energy areas (WEAs) during all seasons except winter (NEFSC and SEFSC 2018).55 Additionally, the peak density for humpbacks in the lease area is in September, based on estimates derived for the older Roberts et al. models (see Table 12 in LGL 2022).139 We recommend that BOEM provide annual and peak occurrence information for the Project Area using the most comprehensive set of data (e.g., the new Roberts et al. models).	Thank you for the comment. The footnotes associated with Table 3.15-1 have been revised to define the designations and seasons presented. Additionally, the designations made in the table have been updated to be consistent with the most current information on species occurrence.
BOEM-2022-0045-0110	39	Specific concerns with Table 3.15-1 include the following: Species Occurrence in RWF and RWEC: BOEM includes the long-finned pilot whale but not short-finned pilot whale as occurring in the Project Area. However, due to the uncertainty of the exact ranges of these species, the potential for range shifts due to climate change, and the difficulty distinguishing between these species in the field, both species should be included as expected to occur in the Project Area. In general, pilot whales sighted south of Cape Hatteras are expected to be short-finned pilot whales, while those sighted north of approximately 42°N are expected to be long-finned pilot whales (Garrison and Rosel 2017)140; however, long-finned pilot whales are known to strand as far south as Florida, and short-finned pilot whales have stranded as far north as MA (Pugliares et al. 2016).141 Tagged short-finned pilot whales have ranged along the shelf break as far north as Nantucket Shoals and Georges Bank (Thorne et al. 2017).142 During recent surveys in the nearby New York Bight, short-finned pilot whales were sighted in August (NYSERDA 2020).143 Blue whales are listed as occurring in the Project Area; however, blue whales are only occasional visitors to the OCS (Hayes et al. 2020)144 and have not been sighted in or near the Rhode Island/Massachusetts WEAs during area-specific surveys (e.g., Kraus et al. 2016).145 Also, note that monthly average densities of this species in the lease area were all zero (see LGL 2022).58 Atlantic spotted dolphins are listed as not expected to occur in the Project Area; however, BOEM should consider this species as expected to occur based on known sightings information in this region. For example, this species has been sighted in the New York Bight in November and April/May (NYSERDA 2020)62, and density estimates (although low) have been generated for the lease area for all months except January-March (see LGL 2022).58 Harp and hooded seals are listed as expected to occur in the Project Area. BOEM needs to provide information to support their inclusion of these extralimital seal species.	Thank you for the comment. The designations for short-finned pilot whale, blue whale, Atlantic spotted dolphin, harp seal, and hooded seal have been reviewed and revised, as necessary, to be consistent with the most current occurrence information.
BOEM-2022-0045-0086	39	There are species listed in Table 3.15-1 which are either listed as likely to occur or not likely to occur in the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) which is inconsistent with the analysis from the Revolution Wind COP. First, Table 3.15.1 says that Atlantic spotted dolphins are not likely to occur in the RWF/RWEC. The COP assessment indicates they may occur (though sightings would be uncommon) based on recent Protected Species Observer (PSO) sightings for the Revolution Wind Farm Lease Area. This is further supported by the Underwater Acoustic Modeling of Construction Sound and Animal Exposure Modeling (Küsel et al., 2021)19 which includes them in the exposure modeling assessment. Second, both harp seals and hooded seals are considered likely to occur in the RWF/RWEC in Table 3.15- 1 which is inconsistent with the COP analysis. Both are considered rare in the COP analysis, but only harp	Thank you for the comment. The text has been reviewed and revised, as necessary, to be consistent with the COP analysis and Letter of Authorization application. Where the information differs, a clear description of the reasoning has been added.

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		seals are included in the exposure modeling conducted by Küsel et al. (2021). Therefore, Revolution Wind respectfully requests that the species considered likely to occur in the Project Area be reviewed and updated so they are consistent with the COP analysis and Letter of Authorization (LOA) application, or a definitive reason as to why the analysis in the DEIS differs from these documents is clearly stated.	
BOEM-2022-0045-0110	40	Specific concerns with Table 3.15-1 include the following: Additional Primary Sources to Be Considered: As we have highlighted previously, BOEM should rely upon peer-reviewed primary sources for its analysis of occurrence and habitat use in and near the Project Area. Given the proximity to the New York Bight, additional relevant146 data sources would be appropriate to incorporate into the FEIS.	Thank you for your comment. Additional primary sources have been incorporated into Table 3.15-1, as available.
BOEM-2022-0045-0086	40	In Section 3.15.2.2.2, Page 3.15-40, the final determination for marine mammals resulting from noise produced by operating WTG during the O&M phase is described as follows: "On balance, operational noise effects from the RWF are likely to be of low intensity and localized to around each foundation. Jansen and de Jong (2016) and Tougaard et al. (2009) concluded that marine mammals would be able to detect operational noise within a few thousand feet of WTGs, but the effects would have no significant impacts on individual survival, population viability, distribution, or behavior. The findings provided above indicate that operational noise effects would attenuate to ambient levels within a few hundred to a few thousand feet of each foundation, but operational noise would be at levels that could cause behavioral reactions in marine mammals within 120 feet of each turbine. There is the potential for a reduction in effective communication space within the wind farm environment for marine mammals that communicate primarily in frequency bands below 8 kHz (i.e., low-frequency cetaceans). This localized, long-term impact would constitute a moderate adverse effect on marine mammals belonging to the low-frequency cetacean hearing group. Operational noise effects on marine mammals in other hearing groups would be negligible to minor adverse because operational noise overlaps the sound frequencies used for hearing and communication by these species to a lesser degree. It is unknown if operational noise would contribute to displacement effects to marine mammals." Revolution Wind requests the effects determination be reviewed to consider a minor determination for all marine mammal species regardless of hearing group. All available information suggests that WTG noise would be detectable by all marine mammals, but no biologically relevant/long-term effects would be expected to occur. Recent studies from Tougaard et al. (2020)20 and Stöber and Thomsen (2021)21 concur with the findings presented in the DEIS (i.e., that operational noise would be detectable within a few thousand feet of the WTG but would have no significant impacts on marine mammals) and also show that underwater noise measured from operational WTG was approximately 10 – 20 dB lower than that measured from commercial vessel traffic at the same distances (Stöber and Thomsen, 2021). Section 3.15.2.2.1 of the DEIS determined that Project vessel noise would result in only minor adverse effects on all marine mammals, regardless of hearing group, and due to the similarities in noise produced by WTG and large vessels, the impact determinations should likewise be similar. Additionally, Section 3.15.1.1.1 of the DEIS determined that noise from operational WTG for all Future Offshore Wind Activities without the Proposed Action would result in minor impacts for all marine mammals. BOEM estimated up to 3,008 new offshore wind structures would be installed and begin operating between 2022 and 2030 within the GAA, compared to the up to 100 structures that would be installed under the Proposed Action. Studies indicate that the overall noise produced would incrementally increase with additional turbines (Tougaard et al., 2020), so it would follow that a greater number of turbines would result in higher noise levels. Therefore, Revolution Wind respectfully disagrees with the finding that impacts from noise produced by a single offshore wind project would be less than that produced by all future potential projects within the marine mammal GAA and recommends a minor adverse impact determination for all marine mammals. In addition to being inconsistent with the aforementioned information, a finding of moderate impact would have illogical results. The definition of a moderate impact states that "[a] notable and measurable adverse impact on the affected resource(s) could occur AND the affected resource would recover completely when remedial or mitigating action is taken." As noted, the available information indicates that there would be no notable impact; and there are no identified mitigation measures for noise produced by operational WTGs, nor remedial activities have been described in the COP. Therefore, with a moderate determination, the DEIS could be read as concluding that the resource (e.g., NARW) is not expected to recover completely because there would mitigating or remediating actions in place for this IPF, despite the fact that the available information indicates that no biologically relevant/long-term effects would be expected to occur.	Thank you for the comment. The text has been reviewed and revised, as necessary, to ensure consistency and logic of the impact determination.
BOEM-2022-0045-0110	41	Specific concerns with Table 3.15-2 include the following: Abundance Estimates for the North Atlantic Right Whale: The NARW remains one of the most endangered large whale species, with the best population estimate at just 336 individuals based on data through September 7, 2021.147 The DEIS uses an outdated population estimate for the right whale of 368 individuals148, and we encourage the use of the 336 estimate to more accurately reflect the species' status and subsequent risk assessment.	Thank you. The FEIS has been revised to reflect the most current population information for North Atlantic right whale.

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BOEM-2022-0045-0086	41	Page 3.15-29 of the DEIS states: "Nighttime pile driving may occur under certain conditions" and a footnote that further describes those conditions as "... specific circumstances where foundation installation takes longer than anticipated and delaying installation until daylight could present risks to safety and/or structural stability." We believe that this characterization of potential nighttime pile driving activity is not necessarily consistent with intended activities. Although this description may indeed reflect one circumstance under which nighttime pile driving may occur, the Project is also working to develop and define the effectiveness of nighttime monitoring methods such as IR sensors and advance PAM systems that would provide sufficient monitoring of pre-start clearance and shutdown zones at night, so that nighttime pile driving may be initiated at night. As described in the Incidental Take Regulation (ITR) application and Protected Species Monitoring and Mitigation Plan (PSMMP), the specific monitoring methods used to conduct monitoring and allow the safe initiation of pile driving at night will be described in a subsequent monitoring plan to be submitted to NMFS and BOEM for review and approval prior to the beginning of installation activities. Furthermore, the Ocean Wind DEIS includes language in which nighttime pile driving may occur to allow for schedule adherence. Whereas the Revolution Wind DEIS omits the language surrounding schedule adherence. We request that the language and analysis in the EIS reflect this broader scope of potential nighttime pile driving to account for the forthcoming PSMMP and similarly include the possibility of nighttime piling to facilitate schedule adherence.	With regards to nighttime pile driving, the text has been revised to describe the intended activities as currently described in the COP.
BOEM-2022-0045-0110	42	Specific concerns with Table 3.15-2 include the following: Project-Area Abundance Estimates: BOEM does not provide Project-Area-specific abundance estimates for marine mammal species in this table or elsewhere in the DEIS. The Roberts et al. models have recently been updated as of 2022, and BOEM should include abundance estimates derived from these models before the FEIS is published to fully assess risk and impacts to species in the Project Area.	Thank you for your comment. Updated information has been incorporated into Table 3.15-2 of the FEIS, as available, to reflect the current understanding of the abundance of marine mammal species within the project area.
BOEM-2022-0045-0086	42	Page 3.15-38 of the DEIS states: “The densities of most common species of marine mammals likely to occur in the RWF Lease Area and RWEC route are low based on monthly mean density estimates developed by Roberts et al. (2016, 2017, Revolution Wind Farm and Revolution Wind Export Cable Project Draft Environmental Impact Statement 3.15-38 2018, 2020, 2021). Project construction of the maximum case scenario under the Proposed Action would require an estimated maximum of 1,936 round trips for all vessel classes combined over the 2-year construction and installation period. Due to the low relative densities of those species vulnerable to collisions compared to where the majority of the population is, there is a low risk of a marine mammal vessel encounter. Although this would likely be an increase in vessel traffic in and around the maximum work area of approximately 2% a year, the operational conditions combined with planned EPMs, and additional mitigation measures agreed upon through agency consultation (see Appendix F for all vessel strike avoidance measures) would minimize collision risk during construction and installation. During periods of low visibility, trained crew would use increased vigilance to avoid marine mammals. Because vessel strikes are not an anticipated outcome given the relatively low number of vessel trips and EPMs to avoid encountering marine mammals, BOEM concludes vessel strikes are unlikely to occur. Therefore, there is no anticipated effect on marine mammals and collision effects would be negligible adverse during the construction phase of the Project.” A single encounter (strike) could have population-level impacts to the NARW due to its <1 potential biological removal (PBR; Hayes et al., 2022)22. Although the risk for a NARW encounter is low, Revolution Wind acknowledges that the risk is notably not zero. Therefore, it must be made clear why collision effects are considered negligible for the NARW. Revolution Wind respectfully requests that a detailed discussion specific to NARW strike risk, including how mitigation measures will effectively eliminate strike risk to the species, is included within this section or consider a minor effect.	Thank you for the comment. The text has been reviewed with respect to the discussion of strike risk for NARW. Where appropriate, details have been added to support the impact determination stated.
BOEM-2022-0045-0086	43	Page F-19 of Appendix F in the DEIS states in Mitigation Number 1: “BOEM, BSEE, and USACE would ensure that PSO coverage is sufficient to reliably detect marine mammals and sea turtles at the surface in clearance and shutdown zones to execute any pile driving delays or shutdown requirements. If, at any point prior to or during construction, the PSO coverage that is included as part of the proposed action is determined not to be sufficient to reliably detect ESA-listed whales and sea turtles within the clearance and shutdown zones, additional PSOs and/or platforms would be deployed. Determinations prior to construction would be based on review of the Pile Driving Monitoring Plan. Determinations during construction would be based on review of the weekly pile driving reports and other information, as appropriate.” There is no definition of what constitutes insufficient PSO coverage described in this mitigation measure. This measure, as written, provides no specifications regarding what information will be evaluated or how information would be obtained to lead to a determination that initiates more PSO or Platform coverage. Therefore, Revolution Wind requests that the actual conditions, evaluation metrics, and evaluation process be clearly defined in order to implement this mitigation condition effectively during Project construction.	The Endangered Species Act of 1973 (ESA, 16 U.S.C. §§ 1531 et seq.), as amended, establishes a national policy designed to protect and conserve threatened and endangered species and the ecosystems upon which they depend. Section 7(a) (2) of the ESA requires each Federal agency to ensure that any action that they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the adverse modification of designated critical habitat. With respect to PSOs, minimum requirements have and will continue to be assessed within the processes of these laws and as related to these mitigations without be overly prescriptive. As new information becomes available and if warranted, adaptive management practices are in place.
BOEM-2022-0045-0086	44	Page F-19 of Appendix F in the DEIS includes a description of distances for required additional monitoring platforms. Revolution Wind is currently undertaking several efforts to better define the effective distance of various monitoring methods for detecting marine	Thank you. The specifics of the mitigation measures presented in the FEIS are consistent with the LOA.

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		mammals. We are actively engaged with National Marine Fisheries Service (NMFS) and BOEM in sharing these results and they will be incorporated into a final monitoring plan approved by NMFS as part of the LOA processes. Since that process is not yet complete, we request that BOEM remove this description of a specific distance at which additional monitoring platforms will be used and instead include a reference to the final monitoring plan to be approved by NMFS and BOEM.	
BOEM-2022-0045-0110	45	BOEM anticipates that the Proposed Action would result in "negligible to moderate adverse" impacts for most marine mammal species with "major adverse" impacts noted for North Atlantic right whales due to underwater noise from impact pile driving. This overall impact is lowered to "moderate adverse" based on timing restrictions and other environmental protection measures (EPMs) specifically intended to avoid adverse effects on North Atlantic right whales. BOEM further postulates that beneficial impacts are expected from "reef effects" of the structures.157 Recognizing that, instead, "major" impacts may result from the Action Alternatives is especially important for developing appropriate avoidance, minimization, and mitigation measures to reduce risk to the NARW. BOEM concludes that the No Action Alternative may result in "moderate" adverse impacts to marine mammals mostly due to underwater noise and exposure to collision risk associated with vessel traffic, and fishing gear interactions.158 While we agree with BOEM that entanglement risk would constitute a "major" adverse effect on North Atlantic right whales because of the low population numbers and that exposure to vessel and operational noise would constitute a "moderate" adverse effect,159 vessel strikes represent the other primary cause of the right whale's decline and are of serious concern during offshore wind development. Vessel strike impact should also be considered to be "major" under any of the Action Alternatives. In fact, BOEM acknowledges that vessel strike impacts of Alternative B on marine mammals would range from "negligible" to "major" adverse depending on the species affected and the severity of the strike.160	Thank you for your comment. The FEIS has been updated with respect to vessel strike risk to reflect current information. The impact determinations for each of the alternatives have been reviewed and revised, as necessary, to reflect the current information.
BOEM-2022-0045-0086	45	Revolution Wind commends the DEIS for how it referenced LOA conditions when describing detailed information in the mitigation measures; however, there are inconsistencies between the proposed monitoring plan and the DEIS language. Where details are required, the mitigation conditions in the DEIS should defer to or reference the other regulatory documents as appropriate to ensure consistency when all documents are finalized.	Thank you for the comment. The text has been revised to reference other regulatory documents, where appropriate.
BOEM-2022-0045-0110	46	The impacts to the North Atlantic right whale should be parsed out in the impact determination for each of the Action Alternatives, the same way as has been done for the No Action Alternative, and be considered to be "major."	Thank you for your comment. The O&M and cumulative impact sections for the Action Alternatives have been reviewed and revised, as appropriate, to provide clarity on the impact determination for North Atlantic right whales.
BOEM-2022-0045-0086	46	Section 3.15.2.2.1 of the DEIS does not include (1) a discussion of what animal movement modeling is and how/why it was applied to the acoustic analysis, (2) an explanation of the difference between acoustic ranges and exposure ranges, (3) clarification of which project activities included this type of modeling, and (4) the distinction between which exposure estimates were informed by animal movement modeling. Unlike the traditional method whereby acoustic modeling is used to estimate the marine mammal threshold exceedance zones assuming that animals are stationary for the duration of activity within a 24-hr period, animal movement modeling is used to simulate realistic animal movement through a sound field to estimate the closest point of approach by which 95% of simulated animals (animats) exceed a given impact threshold. These species-specific distances are considered exposure ranges and are used to inform mitigation and monitoring zones (Küsel et al. 202223, LGL 202224). There is no distinction between acoustic and exposure ranges in Table 3.15-6 and surrounding text. Revolution Wind suggests adding clarification to this table and surrounding text to describe the difference between these ranges.	Thank you for the comment. The text has been revised to clarify the difference between acoustic and exposure ranges.
BOEM-2022-0045-0086	47	The footnotes of Tables 3.15-7, 3.15-8, and 3.15-9 and surrounding text appear to imply that the exposure estimates for all construction activities (i.e., WTG and OSS monopile installation, temporary cofferdam installation, HRG surveys, and UXO detonations) were informed by animal movement modeling; however, animal movement modeling was only conducted for impact pile driving of WTG and OSS monopiles (Küsel et al. 2022). The exposure estimates for all other activities were not informed by animal movement modeling.	The text has been revised accordingly.
BOEM-2022-0045-0110	48	Within the DEIS, BOEM asserts that pile-driving activities will likely exceed PTS and TTS for all marine mammal functional hearing groups.162 Nevertheless, BOEM assumes that mid-frequency cetaceans, high-frequency cetaceans, and pinnipeds will avoid the noise caused by pile driving and will therefore be less exposed to underwater noise to the degree that they would not experience PTS and TTS. We do not believe there is enough evidence to support this assumption and note that while noise may be a deterrent that may cause avoidance behavior, other offshore wind development activities could also attract species to the area. BOEM should endeavor to avoid, minimize, and mitigate impacts to all marine mammal hearing groups in a manner that does not assume reduced impact through avoidance. We encourage BOEM to support research aimed at better understanding how sound exposure relates to avoidance behaviors for various taxa, so that more information on this point can be factored into future impact analysis.	Thank you for your comment and the additional information. The text has been revised to incorporate this and other available sources related to behavioral impacts and avoidance. The discussion of behavioral impacts is based on best available science and recognizes the uncertainty with regards to this issue.

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		We note that behavioral impacts resulting from noise exposure can be significant, and the best available scientific information on this matter is not incorporated into the DEIS. For example, there are data available beyond the Southall et al. (2021) risk assessment that BOEM should consider. For example, scientific information on NARW functional ecology shows that the species employs a “high-drag” foraging strategy that enables them to selectively target high-density prey patches but is energetically expensive.163 Thus if access to prey is limited in any way, the ability of the whale to offset its energy expenditure during foraging is jeopardized. In fact, researchers have concluded: “right whales acquire their energy in a relatively short period of intense foraging; even moderate changes in their feeding behavior or prey energy density are likely to negatively impact their yearly energy budgets and therefore reduce fitness substantially.”164 NARWs are already experiencing significant food stress: juveniles, adults and lactating females have significantly poorer body condition relative to southern right whales and the poor condition of lactating females may cause a reduction in calf growth.165 A recent study confirmed that larger females do, indeed, have more calves.166 These studies provide an indication of the significant impact disturbance during foraging may have on a marine mammal species. For this DEIS and others that are forthcoming, BOEM must fully assess the impacts associated with disturbance of marine mammals during foraging, at the spatial and temporal scale those impacts are expected to occur, for individual projects and cumulatively across projects. As the energetic requirements of many marine mammal species are not yet known, we recommend BOEM proceed with this analysis in a precautionary manner, and support research aimed at addressing these knowledge gaps.	
BOEM-2022-0045-0086	48	In Section 3.15.2.2.1 of the DEIS under the "Noise" IPF for the Environmental Consequences of the Proposed Action, the discussion of noise produced by impact pile driving does not indicate whether these are the acoustic or exposure ranges modeled by JASCO (Küsel et al., 202125). This is a key point for discussing potential impact on marine mammals because the exposure ranges take animal movement into account to estimate the threshold distances whereas the acoustic ranges do not. For example, the DEIS states: "The resulting values based on summer modeling conditions, presented in Table 3.15-6, represent a radius extending around each noise source where potential injurious-level effects could occur. The single strike injury distances apply only to impact pile driving and represent how close a marine mammal would have to be to the source to be instantly injured by a single pile strike. The cumulative injury distances consider total estimated exposure within a 24-hour period, meaning a marine mammal would have to remain within that threshold distance over an entire day of exposure to experience hearing injury. The behavioral and TTS values are instantaneous exposure distances, meaning that any animal within the effect radius is assumed to have experienced a temporary to short-term adverse effect." Revolution Wind recommends that this text be revised for the following reasons: 1. The first underlined statement only indicates that the summer modeling scenario was used, without any reference to whether these are acoustic or exposure ranges. 2. If the exposure ranges are being referenced here, they already account for animal movement, meaning the duration of exposure is already considered with the range and the second underlined statement ("total estimated exposure within a 24-hour period”) is somewhat confusing as it may imply non-exposure range assessment where the range assumes a 24-hour exposure period rather than the animal movement exposure period. The exposure ranges are ranges that represent a potential PTS event when an animal is detected at that distance (i.e., the exposure period is already considered in the animal movement). 3. There is a typo with the TTS values (third underlined statement), these should be cumulative not instantaneous. This discrepancy is also carried forward in the text following Table 3.15-6 where the DEIS states: “a lowfrequency cetacean would have to remain within 8,727 feet of a 12-meter monopile installation for 24 hours to experience permanent cumulative hearing injury, referred to as PTS” when discussing the impact determination for marine mammals. As discussed above, the duration of the accumulation is already accounted for in the exposure ranges, so this statement should also be revised and checked against the modeling report to ensure the current ranges are being used and referenced in the DEIS.	Thank you for the comment. The text has been revised accordingly.
BOEM-2022-0045-0110	49	Vessel strikes are one of the main factors driving the North Atlantic right whale to extinction.167 Vessel strikes also pose a significant risk to other large whale species currently experiencing UMEs, such as humpback whales and minke whales, as well as endangered fin whales and sei whales.168 Reducing speeds to no more than 10 knots for all vessels is one of the most effective ways to prevent serious injury and mortality to marine mammals and sea turtles from vessel strikes.169 We urge BOEM to require all offshore wind vessels operating where right whales are or are expected to occur, including within and transiting to and from the project site, to travel at 10 knots or less. The amount of vessel activity associated with the development of Revolution Wind is significant. The DEIS notes that in 2025, the project year assumed to contain the greatest number of vessels, there will be an average of 159 daily offshore wind vessels and a maximum number of 301 daily vessels.170 The vessel strike avoidance measures set forth in Appendix F of the DEIS are inadequate. First, any interaction between a vessel and a whale poses a risk of serious injury or mortality, particularly for vessels traveling at speeds of more than 10 knots. Second, the dire conservation status of the North Atlantic right whale means that even a single vessel strike poses an unacceptable risk as it will have population-level consequences.171 Third, while near real-time monitoring technologies may hold	Thank you for your comment. Appendix F of the Final EIS has been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM fully supports regional monitoring and coordination with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures and will incorporate results in future decisions.

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		promise for improving detection probability of North Atlantic right whales, their effectiveness relative to a 10-knot speed restriction is as yet unproven. Fourth, the proposed 24-hr pile driving will likely increase vessel activity at night when detectability of whales from moving vessels is even further limited. Pending technological advancements,172 BOEM must implement a year-round 10-knot speed restriction on all vessels, regardless of size, associated with the Revolution Wind project to minimize the risk of any lethal vessel strikes of North Atlantic right whales or other vulnerable species.	
BOEM-2022-0045-0086	49	Revolution Wind has provided a revised Vessel Strike Avoidance Plan (June 2022) that differs from the vessel speed restriction measures included in Table 3.15-13 (page 3.15-57) of the DEIS. The DEIS states "All vessels, regardless of size, would comply with a 10-knot speed restriction in any Seasonal Management Areas (SMAs), Dynamic Management Areas (DMAs), or Slow Zones." The DEIS also states "the applicant will adhere to speed restrictions 10 knots or less for all vessels at all times between November 1 and April 30 in all DMAs, and use of a PAM system to alert vessels to potential marine mammal presence in real time" (page 3.15-37). In the current Vessel Strike Avoidance Plan, the transit corridor and Wind Development Area (WDA) will be divided into detection action areas that will be monitored acoustically in real time and visually when vessels are present. Revolution Wind has proposed that when passive acoustic monitoring (PAM) systems are operational, all underway vessels (regardless of size) be permitted to travel at speeds greater than 10 knots in DMAs except within an active action area triggered by the detection and localization of a NARW with the action area using visual or acoustic methods. Revolution Wind's Vessel Strike Avoidance Plan (revised June 2022) does not address Slow Zones; however, Revolution Wind has committed to an analogous, but more area-specific, action zone system as outlined above and described in-depth within the Vessel Strike Avoidance Plan.	Thank you for your comment. BOEM is working closely with NMFS to determine appropriate mitigation measures, including vessel speed reductions. The final mitigation measures that are determined to be most effective will be developed through the ESA and MMPA processes and will be required of the developer.
BOEM-2022-0045-0110	50	Protection of North Atlantic right whales during foraging, and the protection of their core foraging habitat, must be one of BOEM's utmost priorities. North Atlantic right whale distribution and habitat has shifted since 2010 in response to climate change-driven shifts in prey availability. The best available scientific information, including aerial surveys,173 acoustic detections,174 photo-identification data,175 stranding data,176 a series of DMAs declared by NMFS pursuant to the 2008 VSR rule,177 and prey data,178 indicate that North Atlantic right whales now rely heavily on the waters off Southern New England year-round. These waters represented important pre-whaling era habitat for the species, and it appears that North Atlantic right whales are repatriating the area.179 NMFS' scientists identified the area as a year-round core foraging habitat in 2020,180 and a recently published synthesis of aerial survey data found that right whale abundance has significantly increased in the area over the past decade.181 North Atlantic right whales have also been observed foraging and socializing in the area year-round, making this the only known location where these behaviors have been observed across the year.182 Habitat off Southern New England is clearly key for survival of the species. In January 2019, an aggregation representing more than a quarter of North Atlantic right whales alive at the time—100 whales—was seen south of Nantucket engaged in both foraging and social activities.183 The area is also important to all life history stages. Of 196 individual whales identified in the area between January 1, 2010, and June 30, 2015, 35 percent were females, 58 percent were males, and the remainder were of unknown sex. Of the 188 individuals that were assigned an age class, almost two thirds were adults and one third juveniles. Six individuals were classified as calves at the time of their sighting.184 There were 34 different reproductive females identified, eight of which have only been documented off the coast of Southern New England since 2010.185 Further, 11 out of 15 whales newly catalogued in 2020 that were identified south of Cape Cod have never been sighted further north in the Bay of Fundy or the Gulf of St Lawrence,186 suggesting this area may represent an end-point of the northern migration for some portion of the population. BOEM should use the above best available scientific information on presence and abundance of North Atlantic right whales when considering seasonal restrictions to protect the species and minimize impacts to other marine mammal species in the Revolution Wind development area off Rhode Island. Revolution Wind proposes seasonal restrictions187 but does not specify the dates188, and the Petition for Incidental Take Regulations states that if they are limited to daylight hours only for pile-driving operations, they would need to conduct operations during the currently excluded January - April timeframe (when right whales would occur in higher numbers) to "create a sufficient buffer between required installation time and available installation time".189 The current seasonal restriction dates do not reflect the best available scientific information on right whale distribution in this area of year-round importance.190 BOEM needs to clarify their requests and potential plans for pile-driving outside of the seasonal restrictions for North Atlantic right whales.	Thank you. This and other available information on the presence and abundance of North Atlantic right whales has been incorporated into the FEIS to provide a current understanding of the distribution of the species. BOEM will continue to coordinate with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures for all project impacts.
BOEM-2022-0045-0086	50	Revolution Wind would also like to clarify that it proposes to adhere to Plan A of the Vessel Strike Avoidance Plan reverting to Plan B only in situations where real-time marine mammal detection systems are not operational. Additionally, Revolution Wind will comply with the Ship Strike Reduction Rule; as such, vessels 65 feet (20 m) and greater subject to the jurisdiction of the U.S. will comply with the 10-knot speed restriction in SMAs. Finally, Revolution Wind would like to point out that SMA and DMA regulations under the North	Thank you for the comment. The text has been revised accordingly.

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		Atlantic Right Whale Vessel Strike Reduction Rule (50 CFR Part 224) are currently under review. Modifications may result in a reduction of vessel length to which the SMA rules apply as well as the possibility that all waters along the east coast will be subject to SMA rules.	
BOEM-2022-0045-0110	51	BOEM also must consider how the proposed seasonal restrictions may affect impacts to other marine mammals and minimize existing and potential stressors to those protected species. It is therefore imperative that BOEM fully account for the consequences of any proposed North Atlantic right whale seasonal restriction on other protected species and evaluate alternative risk reduction strategies sufficiently protective of multiple species. Requiring a robust and scientifically proven near real-time monitoring and mitigation system for North Atlantic right whales and other endangered and protected species for use during impact pile driving and potentially other noise-generating activities would support the development of alternatives.	Thank you for the comment. Please refer to the responses to Comments 31 and 32 in comment submittal BOEM-2022-0045-0110 for a discussion of proposed mitigation measures and their protectiveness for marine mammals. As appropriate, the text has been reviewed and revised to address the potential impact of seasonal restrictions for North Atlantic Right Whale and on other marine mammals.
BOEM-2022-0045-0086	51	Within the Vessel Traffic IPF discussed for O&M and Decommissioning in Section 3.15.2.2.2, the DEIS states: "In the event of an unanticipated vessel strike of a marine mammal, project vessels must immediately cease activities until BOEM is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with all applicable laws (e.g., ESA, MMPA) and COP approval conditions." Revolution Wind supports this measure. However, there is no comparable statement within the discussion for the Vessel Traffic IPF for Construction and Installation in Section 3.15.2.2.1. Because the mitigation applied for vessel traffic would be applied throughout project activities regardless of project phase, Revolution Wind respectfully requests this statement from O&M and decommissioning also be added to the construction and installation Vessel Traffic IPF section as well.	Thank you for the comment. The text has been revised accordingly.
BOEM-2022-0045-0110	52	Noise impacts pose a serious risk to many marine mammal species, and this risk is exacerbated by the developer's plan to employ 24-hour pile driving (i.e., the commencement of pile driving after dark) for monopile foundations–the most noise intensive technological option as opposed to quiet foundations–for both the WTGs and OSS. As noted previously, following the mitigation hierarchy, we believe BOEM should prioritize impact avoidance and consider alternatives that use quiet foundation technologies that avoid pile driving noise entirely and significantly reduce noise impacts to marine mammals and other marine life overall. BOEM and the developer should provide detailed analysis to support the elimination of these technologies from consideration.191 Quiet foundation types can afford developers significant flexibility in the construction schedule, including potentially year-round and 24-hour construction in some areas. In our view, these incentives should be fully explored by BOEM and industry.	Thank you for your comment. "Quiet" foundation design types like the monopod suction caisson, suction caisson jacket, and gravity base structure foundations were evaluated during project development. These options were eliminated in favor of the monopile foundation due to their larger footprints (leading to more extensive seabed and navigation impacts), unsuitability for site-specific conditions, and supply chain issues. Regarding nighttime pile driving, NMFS' ITA would require sufficient demonstration of the effectiveness of proposed monitoring and mitigation protocols in the form of an Alternative Monitoring Plan prior to initiating any nighttime pile driving.
BOEM-2022-0045-0110	53	As previously expressed to the National Marine Fisheries Service regarding Ocean Wind 1's request for a Letter of Authorization (LOA), and for all forthcoming LOA applications for future offshore wind projects (see Attachment 2),192 we are extremely concerned that Revolution Wind is proposing to commence pile driving at night and that nighttime pile driving is not included in the DEIS and has not been factored into the impact determinations.193 As the acoustic models for the project demonstrate, impact pile driving generates levels of noise harmful to marine mammals over large distances.194 The developer has indicated that they will employ night vision equipment and infrared/thermal technology in addition to passive acoustic monitoring during nighttime pile driving operations.195 However, the efficacy of these technologies is limited to certain distances and particular species or animal groups.196 For example, reliable detections made via handheld, light-enhancing devices are generally limited to distances of <200 m for cetaceans and <100 m for pinnipeds and sea turtles.197 Meanwhile, based on Revolution Wind's request for a Letter of Authorization, shutdown zones during impact pile driving will be as large as 4,400 m for large whales.198 Based on the known limitations of currently available night-time monitoring methods and technologies, particularly over distances commensurate with those of the clearance and exclusion zones, it is likely that the detection probability of NARWs and other protected species during darkness and periods of poor visibility (i.e., rain, fog, etc.) will be reduced relative to clear visibility conditions.199 It is imperative that no right whale, or other marine mammal species, is present in the applicable Clearance Zone when pile driving starts. BOEM must require Revolution Wind to commence pile driving only during periods of good visibility (i.e., daylight and clear weather conditions). Impact pile driving started during good visibility conditions can continue after dark, as necessary, providing passive acoustic monitoring and the best available infrared technologies200 are used to support visual monitoring of the clearance and exclusion zones during periods of darkness (see Attachment 1). Despite the developer's assertion that nighttime pile driving would have positive benefits towards reducing impact to North Atlantic right whales and other marine mammals if they can complete installation within a single season because extending to multiple seasons would result in an increase in vessel traffic,201 additional evidence is needed to show that these benefits outweigh the risks of using unproven nighttime monitoring techniques, especially in such a critical year-round foraging area where right whales must not be disturbed. BOEM should also consider that vessels operating at night may be more likely to strike a right whale or other large whale species due to a lack of detectability.	Thank you. The possibility of nighttime pile driving is still in consideration and will require sufficient demonstration of the effectiveness of proposed monitoring and mitigation protocols prior to approval. Incorporation of nighttime pile driving will include submittal and approval by BOEM of a Nighttime Monitoring Plan. Appendix F of the Final EIS has been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.

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BOEM-2022-0045-0110	54	NMFS's, and thus BOEM's, reliance on a 160 dB (re 1 µPa2s) threshold for behavioral harassment is not supported by the best available scientific information and such reliance grossly underestimates Level B take.202 As previously noted, behavioral disturbance of right whales must be minimized to the greatest extent possible if the species is to be adequately protected. For impact pile driving with a minimum noise reduction/attenuation level of 10-12 dB (re 1 µPa2s), the following minimum Clearance and Exclusion Zone distances should be required for the Revolution Wind project for pile-driven foundations: 1. A visual Clearance Zone and Exclusion Zone must extend at minimum 5,000 m in all directions from the location of the driven pile. 2. An acoustic Clearance Zone must extend at minimum 5,000 m in all directions from the location of the driven pile. 3. An acoustic Exclusion Zone must extend at minimum 2,000 m in all directions from the location of the driven pile. In addition, Clearance and Exclusion Zone distances for other large whale species must be designed in a manner that eliminates Level A take and minimizes behavioral harassment to the fullest extent possible.	Thank you for your comment. BOEM and NMFS will work together to determine appropriate clearance and exclusion zones. Appendix F of the Final EIS has been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
BOEM-2022-0045-0110	55	To reduce impacts from noise produced by impact pile driving, BOEM proposes to require a minimum of 10 dB (re: 1 µPa2s) reduction of Sound Exposure Level (SEL).203 This level of noise reduction and attenuation falls below what can now be achieved with best available noise control technology, and we recommend BOEM strengthen its requirements to maximize the level of noise reduction during construction. As described in Bellman et al. (2020) and Bellman et al. (2022),204 noise reduction levels achieved in Europe through the combined use of two noise abatement systems (NAS); one positioned in the near-field and one in the far-field) have reached a 20 dB (re: 1 µPa2s) reduction in SEL, or greater.205 A combination of the IHC Noise Mitigation Screen (IHC-NMS) and an optimized big bubble curtain (BBC) has proven among the most effective to date, with a minimum, average, and maximum reduction in sound exposure level (ΔSEL) of 17, 19, and 23 dB, respectively.206 The deployment of a combination NAS (i.e., two different systems) is considered by those authors to be "state of the art"207 in terms of SEL reduction and is also important for attenuating sound across a range of frequencies208 and maximizing transmission loss.209 We recognize that there are differences between the European offshore wind context and that of the U.S., making the direct transference of findings difficult. The monopiles included in the data set examined by Bellman et al. (2020, 2022) were approximately 8 meters or less in diameter, compared with the approximately 10-meter diameter monopiles planned for the U.S. Larger diameter monopiles generate greater noise levels at the source. The noise reduction standard the NAS were compared against in Europe was also specifically designed to protect harbor porpoises in German waters (i.e., SEL less than or equal to 160 dB (re: 1 µPa2s) at 750 meters from the monopile installation site), and not tailored to the low-frequency cetaceans that are a priority in the U.S. That said, the water depths are, in some cases, comparable across both regions (up to 40 meters), and the European findings can be directly applied to the installation of smaller diameter pin-piles in the U.S. The limited evidence that is available from U.S. offshore wind projects also indicate alignment with Bellman et al. (2020, 2022). For example, the limitations of using a single NAS have been demonstrated. Measurements of sound pressure recorded during the installation of an unmitigated and mitigated monopile for the Coastal Virginia Offshore Wind (CVOW) pilot project indicate that a double bubble curtain (i.e., a single NAS) was most effective at higher frequencies (>200 Hz) and did not attenuate sound as effectively at lower frequencies.210 This indicates that the deployment of a second NAS designed to attenuate noise at lower frequencies would have further reduced noise impacts. Given these developments, BOEM should require the developer to implement the best commercially available combined NAS technology to achieve the greatest level of noise reduction and attenuation possible, in line with the mitigation hierarchy. Based on the findings of Bellman et al. (2020, 2022), which indicate a reduction of 20 dB SEL is feasible for monopiles 8 meters in diameter, we recommend that the minimum requirement of a 10 dB (re: 1 µPa2s) reduction of SEL be viewed as a floor only. BOEM should require developers to deploy technologies proven in Europe to be capable of a 15 dB (re: 1 µPa2s) reduction in SEL, or greater. The noise reduction requirement should apply to all aspects of pile driving operations, including pile strikes, compressors, and operations vessels engaged in construction. Field measurements must be conducted on the first pile installed and data must be collected from a random sample of piles throughout the construction period. We do not support field testing using unmitigated piles. Sound source validation reports of field measurements must be evaluated by both BOEM and NOAA Fisheries prior to additional piles being installed and be made publicly available.	Thank you for your comment. BOEM considered and refined requirements presented in the FEIS, as appropriate.
BOEM-2022-0045-0110	56	We encourage BOEM to pursue activities that could lead to greater levels of noise reduction during impact pile driving for future projects, as noise minimizing approaches during discrete phases of development have been identified by experts as the most promising solution to overcoming noise challenges associated with offshore wind development.211 Such activities may include the development of a noise reduction standard212 (akin to the German standard for harbor porpoise) that is tailored to protect species of concern in U.S. waters, and designed to account for the larger diameter monopiles planned to be installed, as well as other project- and site-specific conditions in the U.S. BOEM should also incorporate into its decision-making all information on noise, and noise reduction levels	Thank you for your comment. "Quiet" foundation types were considered for this project but eliminated due to the larger footprint, incompatibility with site-specific conditions, and supply chain issues. Please refer to the responses to Comments 31 and 32 in comment submittal BOEM-2022-0045-0110 for a discussion of minimization and mitigation measures for construction-related noise.

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		resulting from the use of NAS technologies, produced during the installation first commercial-scale offshore wind projects in the U.S., as well as continually emerging evidence from Europe. By far the most effective way to reduce noise during construction is to install quieter foundation types, and we encourage BOEM to do more to bring gravity-based foundations and suction caissons online in the U.S. This evolution may provide developers with more flexibility (e.g., wider construction schedules, the possibility of commencing pile driving at night), at least in some areas.	
BOEM-2022-0045-0110	57	Additionally, the FEIS should consider the operational noise generated by turbines. Alternative F inaccurately notes, "The potential use of larger capacity WTGs under Alternative F could result in more extensive operational noise impacts than the Proposed Action, but insufficient information is available to characterize differences in effect."213 A wealth of research exists which details the impacts of continuous noise on marine life, and the importance of reducing this impact. Moreover, best available scientific information indicates that, during the operation phase, offshore wind turbines may generate noise audible and potentially impactful to large whales and other marine species over significant distances.214 Pending further study, we recommend the use of direct-drive turbines as opposed to turbines with a gear box, as direct drive turbines may emit lower noise levels and reduce risk of behavioral disturbance or habitat displacement of North Atlantic right whales and other marine mammal species, and also impacts to key marine mammal prey species, during the operation phase of development. As offshore wind rapidly advances in the U.S., more stringent noise reduction requirements will form an important means of reducing the cumulative impacts on species and ecosystems that the industry poses. It would also be beneficial at the project-level by reducing the size of necessary monitoring areas and increasing the probability that a protected species is detected prior to the start of pile driving activity.	Thank you for the comment. Operational noise is considered within the EIS and is recognized as potentially impactful to marine mammals. The insufficient information noted under Alternative F is related to the difference in operational noise associated with turbines of greater nameplate capacity. Please refer to the Noise IPF in Section 3.15.2.3.2 of the EIS for a discussion of operational noise effects under the Proposed Action.
BOEM-2022-0045-0110	58	We have profound concerns regarding the recent informal consultation for marine site characterization activities for offshore wind energy development off the U.S. Atlantic Coast,215 and its failure to rely on the best available scientific data, particularly with respect to the critically endangered North Atlantic right whale. In a letter submitted to BOEM and NMFS on January 20, 2022,216 a number of our organizations urged both agencies to immediately reinitiate consultation under the ESA based on the best available scientific data and new NARW population number, to ensure the mitigation measures on which BOEM is relying for site characterization and assessment activities are protective enough to reduce risk to right whales. BOEM must update the analyses now in order to comply with the ESA on this and all future Atlantic coast leases. In the interim while consultation is ongoing, our groups reinforce the importance of incorporating clear, strong environmental measures directly into the NEPA documents and lease stipulations for existing projects on a project-by-project basis. In particular, based on the significant information we are already aware of and have presented in this and other letters, we urge the agency to incorporate the mitigation measures found in Attachment 1 into upcoming environmental analyses and lease terms.	Thank you for your comment and recommendation. BOEM is working closely with NMFS to determine appropriate mitigation measures, including vessel speed reductions, and the use of real-time PAM and PSOs. The final mitigation measures that are determined to be most effective will be developed through the ESA and MMPA processes and will be required of the developer.
BOEM-2022-0045-0110	59	Unexploded ordnance (UXO) may be encountered on the seabed in the process of developing the Project in the lease area and/or along the export cable routes. UXOs may require removal through explosive detonation, which could cause disturbance and injury to marine mammals and sea turtles. BOEM's EPMs for Revolution Wind do not include monitoring or mitigation measures to be implemented during UXO detonations.217 BOEM intends to employ reticle binoculars for aerial observations, and we do not believe these will be effective for visual observations from the plane. Instead, observers should use inclinometers to record the angle of the sighting from the plane and then calculate the distance of the sighting from the plane. In addition to requiring two dedicated visual observers, a data recorder will also be necessary on the plane, especially if Mysticetus software is employed. This is especially important given that fast flight speeds will make it impossible for Protected Species Observers to adequately observe the water and enter data simultaneously.	Thank you for the comment. Please refer to the response to Comment 32 in comment submittal BOEM-2022-0045-0110 for a discussion of proposed EPMs and additional mitigation measures.
BOEM-2022-0045-0110	60	Specific EPMs are not provided in the main text or in Appendix F. General references are not enough to assess the effectiveness of proposed monitoring and mitigation measures to minimize impacts. For example, missing details include, but are not limited to, the following: the Protected Species Monitoring and Mitigation Plan, specific exclusion/clearance zones for any marine mammals and sea turtles, number of PSOs218 and PAM operators that will be required, dates of seasonal restrictions, Nighttime Pile Driving Monitoring Plan (based on request for 24-hour operations included in Petition for Incidental Take Regulations), and Marine Debris Mitigation Plan. Entanglement in abandoned fishing gear contributes significantly to mortality and serious injury of marine mammals and sea turtles, particularly the NARW. In fact, for right whales, mortality due to fishing gear entanglement is estimated to be approximately three times higher than observed due to cryptic mortality.219 We encourage BOEM and the developer to create a marine debris mitigation plan in addition to the requirement that vessel operators, employees, and contractors complete marine debris awareness training as required by the National Marine Fisheries Service Biological Assessment.220	Thank you. Appendix F does include an Environmental Protection Measure specific to marine debris awareness training, including compliance with United States Coast Guard and EPA regulations. BOEM will continue to coordinate with state and cooperating federal agencies and regional fishery management councils to develop appropriate mitigation measures for all project impacts.

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BOEM-2022-0045-0086	85	Page 3.15-21, Table 3.15-4: The text in Table 3.15-4 causes confusion. In the second to last paragraph, it states "...Given these uncertainties, the potential for displacement effect is unknown, but there is currently no basis to conclude these impacts would result in moderate to major adverse long-term effects on species." The last sentence implies that these impacts wouldn't result in moderate-major impacts for cumulative effects of this IPF, but the main text for this IPF outlines the impacts as moderate to major as the effects determination (depending on species).	The text has been revised to clarify.
BOEM-2022-0045-0086	86	Page 3.15-49, Section 3.15.2.2.3: Recommend clarifying the following sentence to be explicit about the impact determinations, especially with regards to NARWs: "BOEM has concluded that these measures would effectively avoid all but minor adverse impacts on sensitive species such as NARW but may not eliminate risks of moderate adverse impacts to other marine mammal species." Clarity on how measures would avoid all but minor impacts on NARWs, but still pose a moderate impact risk to other marine mammals, appears inconsistent.	Thank you. The text has been revised to clarify the impact determination and how the proposed measures are incorporated.
BOEM-2022-0045-0086	95	Throughout the DEIS, Hayes et al. 2021 is outdated as referenced. Replace with Hayes et al. 2022 anywhere it may occur, and update population estimates accordingly.	The text has been revised accordingly.
BOEM-2022-0045-0086	97	In various locations throughout the DEIS, take estimates should be updated in accordance with the Updated Marine Mammal Density and Take Estimates for the Revolution Wind Offshore Wind Farm memo dated August 2022	The text has been revised to be consistent with the Updated Marine Mammal Density and Take Estimates document.
BOEM-2022-0045-0086	98	In various locations throughout the DEIS, please update the 6,500 strike count for WTG monopiles to 10,740, and the 11,500 strike count for OSS monopiles to 11,563 based on the updated Underwater Acoustic Analysis and Exposure Modeling, Revolution Wind: Impact Pile Driving During Foundation Installation from August 25, 2022.	The text has been revised accordingly.
BOEM-2022-0045-0086	99	Various footnotes throughout the DEIS describe animal movement modeling as informing various calculated numbers. This description may be incorrect in various instances. Animal movement modeling was only used to estimate exposures from impact pile driving of the WTG and OSS monopiles, not for UXO detonations, HRG surveys, or other activities listed herein.	Thank you. The text has been reviewed and revised accordingly.
BOEM-2022-0045-0110	124	Submitter provided additional attachment as follows: Strong Mitigation Measures Are Essential to Protect Large Whales and Sea Turtles During All Phases of Offshore Wind Energy Development	Thank you for the comment. Please refer to the response to Comment 32 in comment submittal BOEM-2022-0045-0100 for a discussion of the incorporation of additional mitigation measures.
BOEM-2022-0045-0100	135	Section 3.15 is missing IPFs and subsequent analysis that should be considered for marine mammals (i.e. habitat disturbance, dredging, lighting, EMF, fisheries surveys/monitoring, etc.). The ESA Info Needs document and prior EISs should be consulted for guidance on the appropriate IPFs to be analyzed.	Thank you for your comment. The IPFs included in the comment have been determined to have a negligible impact on marine mammals and are therefore discussed in Table E2-5 within Appendix E1. IPFs that were determined to either be not applicable or to have negligible impacts do not warrant detailed analysis in the EIS pursuant to 40 CFR 1502.15.
BOEM-2022-0045-0100	136	The DEIS lacks an analysis on the potential effects from Revolution Wind's request to pile driving during nighttime and impaired visibility conditions. Please be clear on BOEM's intent to limit or approve nighttime/poor vis conditions and an analysis of impacts from that decision.	Thank you for the comment. The discussion and analysis of nighttime pile driving has been updated to be consistent with the most current information.
BOEM-2022-0045-0100	137	Please obtain the most recent exposure/take estimates for the Revolution Wind project from Orsted, and revise table values in the EIS accordingly.	The table has been revised accordingly.
BOEM-2022-0045-0100	138	As the DEIS is revised, to ensure consistency between documents please refer to the recent comments we have submitted to BOEM on the BA prepared for the ESA section 7 consultation.	Thank you for the comment. The DEIS has been revised to be consistent with the Section 7 consultation documents and recent comments therein.
BOEM-2022-0045-0100	139	It is unclear why the document references Orsted (2022) when talking about the incidental harassment authorization. The reference would be appropriate if discussing the application. Please revise to say "incidental harassment authorization for the Project, if issued by NMFS, will differ."	Text has been revised accordingly.
BOEM-2022-0045-0100	140	The population estimate for right whales should be based on Hayes et al. (2022). Please change to Nbest=368 (Nmin=364). Please revise. The EIS can also cite the most recent NARW card population estimate.	Text has been revised accordingly.
BOEM-2022-0045-0100	141	Table 3.15-2 includes hooded and harp seals as species likely to occur in the project area. However, these species are not included in Tables 3.15-7 and 3.15-8. Please include rational for omitting these animals as potentially impacted from the project given their "likely" occurrence. NMFS notes Revolution Wind did not request incidental take of these species in their MMPA authorization.	Thank you for the comment. The text and table have been updated to clarify the expected occurrence of hooded and harp seals.

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BOEM-2022-0045-0100	142	Please include UXO detonations in the list of activities in the noise section on this page.	Text has been revised accordingly.
BOEM-2022-0045-0100	143	Please specify the type of injury (PTS) in this phrase "marine mammals would have to remain close to the sound source for extended periods of time to experience injury."	Text has been revised to clarify.
BOEM-2022-0045-0100	144	Given the uncertainty expressed in this phrase "This suggests that operational noise effects on marine mammals could be more intense and extensive than those considered herein," it seems determining that "operational noise effects from other future actions would likely be minor adverse..." is premature. Please revise the last sentence in this paragraph to express the uncertainty included in the first phrase included here.	Text has been revised accordingly.
BOEM-2022-0045-0100	145	Please include the possibility that helicopters will also be used for crew transfers (as an alternative to using vessels).	Text has been updated to acknowledge the potential use of helicopters for crew transport.
BOEM-2022-0045-0100	146	Discussion of potential oceanographic effects should include mention of multiple references instead of solely relying on the Johnson et al. (2021) report. This topic is unsettled and should reflect a diversity of potential outcomes reflected in the literature.	Thank you for the comment. The text has been updated accordingly.
BOEM-2022-0045-0100	147	Please discuss entanglement with regards to ghost gear in addition to the potential displacement of fishing effort that is provided.	Thank you for the comment. The discussion of potential entanglement in fishing gear has been expanded to include possible interactions with ghost gear.
BOEM-2022-0045-0100	148	Please provide supporting evidence that any adverse impacts on marine mammals are limited to "minor" given the "considerable uncertainty" and that the "significance [of these effects] is unknown" as stated in the paragraph.	Thank you for the comment. The text has been revised to incorporate additional support or acknowledge uncertainty, as appropriate.
BOEM-2022-0045-0100	149	There is no Table E2-5 in Appendix E, Attachment E2. The Tables in this attachment are not numbered E2-1, E2-2, etc. Please revise either the tables numbering in the attachment or the references to table numbers in the text to provide clear directions for the reader.	Table numbers have been reviewed and revised to be consistent.
BOEM-2022-0045-0100	150	Noise/Alternatives C-F cell: Please quantify the anticipated reduction in impact pile driving noise and estimated take should fewer piles be installed per Alternatives C-F.	Section 3.15.2.4 (Alternatives C, D, E, and F) provides tables comparing the scale of anticipated pile driving noise impacts amongst the alternatives (including the proposed action).
BOEM-2022-0045-0100	151	Noise/Alternatives C-F cells: Please change "behavioral effects threshold" to "behavioral harassment threshold."	Text has been revised accordingly.
BOEM-2022-0045-0100	152	Presence of structures/Alternative B: When discussing potential displacement, the EIS states "cumulative effects are likely to range from minor to moderate adverse varying by species" in one paragraph, but then goes on to say "but there is currently no basis to conclude that these impacts would result in moderate to major adverse long-term effects on any species." Please either correct or explain this inconsistency between these two statements.	Thank you for the comment. We've reviewed the text and believe it accurately describes the effects.
BOEM-2022-0045-0100	153	Vessel traffic/Alternatives B-F: Please include Slow Zones, in addition to SMAs. Slow Zones, by definition, include both DMAs (triggered by visual detection of right whales) and acoustically-triggered slow zones (triggered by acoustic detections of right whales).	The text has been revised accordingly.
BOEM-2022-0045-0100	154	No Action Alternative/Presence of Structures cell: Please provide supporting evidence that any adverse impacts on marine mammals from existing baseline and future conditions are limited to "minor" given the "considerable uncertainty" and that the "significance [of these effects] is unknown" as stated in the paragraph and the fact that existing baseline impacts to North Atlantic right whales are not currently minor.	Thank you for the comment. The text has been revised to clarify the available data supporting the conclusion and appropriately acknowledge the uncertainty around potential impacts of the presence of structures under the No Action Alternative.
BOEM-2022-0045-0100	155	The text states that "Impact hammer installation of the RWF WTG and OSS foundations would produce the most intense underwater noise impacts with the greatest potential to cause injury-level effects on marine mammals." However, UXO detonations are actually the activity most likely to cause injury-level effects. Also need to clarify the potential for auditory injury (i.e., PTS) vs. non-auditory injury (e.g., lung injury, gastrointestinal injury) and mortality. While pile driving would occur more often than UXO detonations and therefore it could be said that the magnitude (i.e., amount of exposures) to pile driving is greater, as stated this is not an accurate statement. Please correct this in the text, and throughout where appropriate.	Thank you for the comment. Text has been updated to clarify.
BOEM-2022-0045-0100	156	While it is true that explosive thresholds for mortality, GI tract injury and slight lung injury are influenced by mass and depth, we suggest including the relevant threshold equations. Please also include the thresholds for PTS, TTS, and sub-TTS behavior specific to UXO detonations (but noting the latter of which is not likely to occur given Revolution Wind would not detonate more than 1 UXO per day). Include a description of the potential for all impacts from explosives and then please distinguish those impacts that are likely to occur from those that are not, based on modeling results and specific proposed mitigation and monitoring measures.	The text has been updated to expand the discussion on impacts associated with explosives, as appropriate. For the sake of brevity and clarity, the text contains only a narrative description of the explosive threshold equations.

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BOEM-2022-0045-0100	157	Please fully describe the As Low as Reasonably Practicable (ALARP) approach described by Rev Wind. There are other alternatives to 1) safely relocating UXOs or 2) detonation. For example, Revolution Wind may attempt deflagration prior to resorting to high-order detonation. Please include this in the text at the top of pdf p. 503 and throughout, as appropriate.	Thank you for the comment. Additional detail regarding the treatment of UXOs has been added, as available.
BOEM-2022-0045-0100	158	Please specify in the Table heading whether these are acoustic ranges (R95%) or exposure range (ER95%) values.	Text has been revised accordingly.
BOEM-2022-0045-0100	159	Please change the number of strikes required to install a 12-m monopile from 6,500 to 10,740 per Revolution Wind here and throughout the document, as appropriate. The strike count in the ITA application correctly specified this, but the acoustic modeling report did not and has now been revised to do so.	Text has been revised accordingly.
BOEM-2022-0045-0100	160	The 120dBrms threshold is NMFS' behavioral harassment threshold. Please change the word "effects" to "harassment" in the following phrase: "120 dB re 1 µPa threshold (NMFS 2019) for behavioral effects from continuous noise sources,"	Text has been revised accordingly.
BOEM-2022-0045-0100	161	Within the Noise section, among pile driving, UXO detonation, and HRG surveys, the latter was assigned an activity-specific impact level. We recommended identifying an impact level for all noise combined and not segment each noise source as this segments projects impacts for an individual IPF.	Thank you for your comment. In addition to impact determinations for specific activities, the Noise IPF subsection combines those determinations into one overall determination towards the end of the subsection.
BOEM-2022-0045-0100	162	As mentioned in a previous comment, the 120dBrms threshold is NMFS' behavioral harassment threshold. Disturbance not rising to the level of harassment, as defined in the MMPA, can happen below this threshold. Moreover, there is no harassment threshold specifically for "auditory masking". Please replace "disturbance" with "harassment, as defined in the MMPA " and remove "auditory masking". Please do this wherever else there is incorrect references to an auditory masking threshold.	Text has been revised to clarify.
BOEM-2022-0045-0100	163	Footnote: Please specify in this footnote that "takes longer than necessary" refers to a single foundation installation, rather than that the broader project schedule. If this is not BOEM's intention, please revise the language in the footnote to provide clarity so that BOEM's intention is clear to the public.	Text has been revised to clarify.
BOEM-2022-0045-0100	164	Please clarify whether "the [UXO] devices are distributed such that the exposure areas would not overlap" means that the overlap would not occur in time, in space, or both. Please also clarify that BOEM would condition the permit such that UXO detonation noise would not overlap with noise from other sources (e.g., impact pile driving). Also discuss how noise from UXO is instantaneous and limited to 1 UXO detonation per day so if there is overlap (should BOEM not condition it to be allowed), any impacts would not likely be different than individual exposure from any one source. Also discuss the likely distance between any two noise generating sources as justification for any impact assessment on overlapping noise.	Thank you. Discussion of the potential effects from UXO detonation has been revised accordingly and to be consistent with updated information.
BOEM-2022-0045-0100	165	It is not correct to say "The take request associated with UXO detonation includes the potential for non-auditory injury." It is correct to say that the exposure analysis addressed the potential for non-auditory injury. Revolution Wind did not request take for non-auditory injury. Please correct.	Text has been revised to clarify.
BOEM-2022-0045-0100	166	The values in this table should be updated to include the following number of PTS exposures incidental to UXO detonations: harbor porpoise (49), harbor seal (5), and gray seal (3) These updates resulted from Revolution updating the animal densities used in exposure estimation.	Thank you for the comment. The table has been updated to be consistent with the most current information on exposure estimates for marine mammals.
BOEM-2022-0045-0100	167	Revolution Wind did not specifically estimate TTS exposures. The values in this table (which don't align with Revolution Wind's most recent exposure estimates, and should be revised) are related to behavioral harassment thresholds Please remove "a Temporary Threshold Shift or" from the title, and request the most recent exposure modeling results from Revolution Wind to update the table values.	Text has been revised to clarify and to be consistent with current information.
BOEM-2022-0045-0100	168	The beginning of this paragraph introduces vessel noise, and the distance within which a marine mammal would have to remain for 24 hours to incur PTS (400 ft), but the paragraph goes on (three sentences later) to state that a marine mammal could clear the zone of potential noise exposure in 4 hours. Please revise the text to create logical connections between the presented ideas. Also, identify how unrealistic it is for PTS to occur based on the assessment (i.e., animals would have to remain within 400 ft of vessel for 24 hours for the potential for PTS to occur).	Text has been revised to clarify.
BOEM-2022-0045-0100	169	It is not clear what the following means: "and 3) construction timing along with development and adoption of an adaptive acoustic monitoring plan for sensitive species that would be intended to avoid noise impacts in areas with sensitive species during spawning periods." Please revise for clarity. What is an adaptive acoustic monitoring plan in this context, and to which species does this refer? How does construction timing avoid impacts to spawning behavior?	Text has been revised to clarify.

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BOEM-2022-0045-0100	170	The discussion in this paragraph requires substantial revisions. Please provide a more robust, well supported review of potential impacts of the presence of structures on marine mammals. Please refer to the NEFSC's memo to BOEM as a starting point.	Thank you for your comment. Additional information has been incorporated into the Presence of Structures IPF section, as available, relying on the information in the May 13, 2022 memo from NEFSC to BOEM for guidance.
BOEM-2022-0045-0100	171	Please include Robert et. al (2022) as a reference. Revolution Wind has revised densities and take estimates using the most recent Robert et al. (2022) data. Update the DEIS with this information.	Thank you. The FEIS has been revised to incorporate the most current information on marine mammal abundance and distribution within the project area.
BOEM-2022-0045-0100	172	"Due to the low relative densities of those species vulnerable to collisions compared to where the majority of the population is, there is a low risk of marine mammal vessel encounter." This statement still needs to be revised to address the fact that densities fluctuate by season and by species and needs support (note NMFS does not necessarily agree with this statement as is). For example, peaks in humpback whale presence and those for right whale presence in the project area do not occur at the same time of year.	Text has been revised to clarify.
BOEM-2022-0045-0100	173	It is more appropriate to say that mid-frequency cetaceans are more likely than low-frequency cetaceans to be able to adapt to operational noise effects, rather than saying than mid-frequency cetaceans are "likely to" adapt. Identify the mechanisms by which marine mammals can adapt. Also, there are also strains associated with having to shift the frequency range in which a marine mammal communicates, so characterizing this ability as a benefit is not accurate.	Thank you for the comment. Text has been revised to clarify and address the potential costs of adapting communication.
BOEM-2022-0045-0100	174	The EIS states that "localized impacts on zooplankton and fish abundance and distribution are not likely to be biologically significant for marine mammals," but then goes on to say that "hydrodynamic effects on prey distribution could contribute to displacement effects and increased interaction with fisheries for some marine mammal species; however, the likelihood and potential significance of such effects is unknown." Given this uncertainty, it is contradictory and illogical to say that impacts are not likely to be biologically significant. Please revise using the best available science, site specific analysis, and recognition of uncertainty.	Text has been revised to clarify.
BOEM-2022-0045-0100	175	Please identify what constitutes a "Project monitoring vessel".	Text has been revised to clarify.
BOEM-2022-0045-0100	176	The text states that the Proposed Action combined with all existing and planned future action "would place over 3,000 noise generating structures in the RI/MA and MA WEAs"," but then goes on to say that "3,008 foundations...[would be placed] on the OCS between North Carolina and Maine." Check numbers, spatial distribution, and revise.	Text has been revised to clarify.
BOEM-2022-0045-0100	177	As mentioned in a previous comment, Revolution Wind did not evaluate distances to specific TTS thresholds, so the values in this table are distance to the behavioral harassment threshold (160 dB re 1 micropascal). Please remove TTS under "Noise Exposure Type." In addition, please update the number of strikes in the footnote to 10,740.	Thank you for the comment. Text has been revised accordingly.
BOEM-2022-0045-0100	178	NMFS must approve any modification to the size of the clearance and shutdown zones. Neither BOEM nor BSEE has the authority to do so without NMFS. Please revise Table 3.15-13 to reflect this.	Text has been revised accordingly.
BOEM-2022-0045-0100	204	The document states that gray and harbor seals have no PBR estimate, which is incorrect. Please revise.	Text has been revised accordingly.

Mitigation and Monitoring

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BOEM-2022-0045-0115	1	Thank you for the opportunity to comment today. My name is Heidi Ricci. I'm director of policy and advocacy at Mass; Audubon for a State based um organization founded in one thousand eight hundred and ninety-six. We have one hundred and sixty thousand um members and supporters, and we've been reviewing offshore wind for a number of years. Now. Um, along with many other environmental organizations. Um, that's all about, is united in our for responsibly developed offshore wind. This is an important component of the overall strategy for decarbonizing our energy systems and provides a tremendous opportunity to fight climate change, reduce air pollution and grow a new industry that's going to support thousands of well-paying jobs. Um We are our focus is on responsible development of offshore wind that avoids, minimize, mitigates, and monitors adverse impacts on green and coastal habitats, and the wildlife that relies on them, as well as uh reducing and minimizing effects on other ocean users uh, including robust consultation with all interested stakeholders, because there is considerable uncertainty about exactly what the impacts will be on wildlife um mass of one also supports development of advanced compensatory mitigation programs that are based on the best available science and that are transparent and accountable. So, for example, the area off the southeast of New England is an important habitat for the Federally and State endangered Rosia turn along with other coastal waterbird species, so there is considerable uncertainty about the effects of these projects on those birds. However, we know that they are also vulnerable to the impacts of climate change, since they nest on coastal beaches that are subject to impacts from sea level rise and from um storms as well as effects on their food, which is changing as conditions in the ocean are changing. So we support the development of compensatory mitigation programs that would fund ah coastal waterbird nesting, habitat, monitoring restoration and enhancement as one example of um potential mitigation programs for offshore wind, and we'll be submitting more detailed comments on the project along with our colleagues from other organizations. So I think i'll conclude with that. Not get into anything more specific here, and thank you for this opportunity.	The Avian and Bat Post-Construction Monitoring Framework is an attachment to COP Appendix AA, which is publicly available on BOEM's website. Additional mitigation and monitoring measures, including adaptive management, may arise from consultations and coordination with Federal and State resource agencies. These additional monitoring requirements would be considered by decision makers and incorporated into the terms and conditions for COP approval. BOEM fully supports regional monitoring and sharing data with the public as offshore wind development progresses and will incorporate results in future decisions.
BOEM-2022-0045-0110	2	As recognized by the United Nations Environment Program Convention on the Conservation of Migratory Species of Wild Animals, migratory species, such as migratory marine species, are particularly vulnerable to climate change impacts.10 Similarly, a report by National Audubon Society found that bird species, already facing threats from habitat loss and other stressors, face significant impacts from climate change that can be ameliorated if we prevent warming from reaching higher levels.11 Against this backdrop of unprecedented climate change risks threatening species extinction and shifts in distribution, it is imperative that all offshore wind development activities move forward with strong protections in place for coastal and marine habitat and wildlife, using science-based measures to avoid, minimize, mitigate, and monitor impacts on valuable and vulnerable wildlife and ecosystems. BOEM must consider sufficient measures to protect our most vulnerable threatened and endangered species and a robust plan for pre-, during, and post-construction monitoring that can enable effective adaptive management strategies.	Thank you for the comment. The EIS evaluates climate change and threatened and endangered species in Chapters 3.5 Bats, 3.7 Birds, 3.8 Coastal Habitats and Fauna, 3.13 Finfish and Essential Fish Habitat, 3.15 Marine Mammals, 3.19 Sea Turtles, Appendix E Planned Activities Scenario and Reasonably Foreseeable Future Activities and Projects, Appendix F Environmental Protection Measures, Mitigation, and Monitoring, and Appendix G Environmental and Physical Settings and Supplemental Information. Section 7.6.1.4 of the *Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf* (Minerals Management Service [MMS] 2007), which informs this EIS, describes global climate change with respect to assessing renewable energy development. Additionally, BOEM's 2019 study *National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf* (BOEM 2019), incorporated by reference into the EIS, evaluated potential impacts from climate change to vulnerable wildlife and ecosystems. The content of these BOEM assessments have been re-evaluated in Appendix E1 to determine the relevance of each IPF to each resource analyzed in this EIS.
BOEM-2022-0045-0091	3	In addition to the marine mammal protection measures, Revolution Wind has agreed to a number of environmental protection measures designed to mitigate impacts to air and water quality, benthic habitat and invertebrates, finfish and essential fish habitat, sea turtles, birds, and bats.10 BOEM has further identified a number of potential additional environmental mitigation measures for the project.11 Many of these additional measures are designed to enhance accountability and to provide concrete implementation standards. Save the Sound generally approves of the full suite of environmental protection measures identified by both Revolution Wind and BOEM. As with the discrete set of recommendations designed to mitigate impacts to the North Atlantic right whale, we urge BOEM to apply rigorous environmental protection measures to all OSW projects and to ensure that they are implemented consistently across the lease areas to ensure their effectiveness.	Thank you for your comment. BOEM continues to work closely with NOAA NMFS, BSEE, and other agencies as appropriate to monitor and ensure committed environmental protection measures are implemented across all OSW projects.
BOEM-2022-0045-0078	3	Rapid Construction Monitoring Analyses and Adjustments It will be important to closely monitor, and rapidly report-out on, successes and challenges of construction and early operation. Information gained via monitoring of early projects should be used to assist other	There are a number of monitoring reports that will be required such as weekly reporting of pile driving activity, sound source measurements, PSO data, and

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		future offshore wind projects in selecting the least impactful and most beneficial methods of project design and operation. We urge BOEM to develop a proposed methodology and aggressive timeline for the public, BOEM, and its consultive federal agencies to review this information and apply it to support an adaptive management approach. Developers (or others given the responsibility for monitoring) should be required (as a permit condition, or contractual funding agreement) to analyze and report publicly on construction and operations monitoring data at least every six months for the first three years of the project.	reporting all sightings of North Atlantic right whales. Appendix F of the EIS has also been updated to include modifications and/or additional mitigation and monitoring measures that BOEM could choose to incorporate into the Record of Decision. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM fully supports regional monitoring and sharing data with the public as offshore wind development progresses and will incorporate results in future decisions.
BOEM-2022-0045-0072	3	The mitigation measures outlined in Appendix F of the DEIS should be required in the final Record of Decision for the RWF. CZM highlights the following measures that are of heightened importance to threatened and endangered marine mammals and avian species in the area: restrictions on pile driving, the use of Protected Species Observers, vessel avoidance measures, speed restrictions, and noise reduction technologies to protect marine mammals; and deterrent devices, a robust monitoring framework, installation of VHF telemetry stations, reporting of dead and injured birds, and installation of appropriate lighting to protect avifauna. CZM supports the proposed post construction monitoring framework for birds and bats that would be developed with the U.S. Fish and Wildlife Service. The proponent should continue to coordinate with Massachusetts agencies on mitigation opportunities for potential avifauna impacts, including establishing baseline monitoring and identifying opportunities for habitat enhancement. In addition, any cable protection implemented to remediate inadequately buried or uncovered cables should be matched with adjacent native sediments rather than the use of concrete mattresses in order to minimize benthic habitat impacts and conversion and navigation hazards to fishing gear.	Appendix F of the EIS has updated the comprehensive list of monitoring and mitigation being considered and evaluated. Many of these measures require evaluation of the effectiveness of a mitigation measure or to identify if resources are responding as predicted to impacts from the approved activities. Monitoring programs are developed in coordination with agencies with jurisdiction over the resource to be monitored. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies.
BOEM-2022-0045-0110	4	As previously noted, offshore wind remains a relatively nascent technology in the United States and, as such, BOEM must closely monitor the impact of offshore wind construction and operations on marine wildlife and the ocean ecosystem to guide its adaptive management and future development. It is necessary to understand baseline environmental conditions prior to large-scale offshore wind development in the United States, so offshore wind impacts can be clearly understood with relation to pre-development environments. Additionally, as discussed further below, it is imperative that BOEM require robust, long-term monitoring (ideally coordinated regionally) to understand the impacts of offshore wind development on natural resources and that this monitoring data be made available to stakeholders and the public. As BOEM well knows, the Regional Wildlife Science Collaborative for Offshore Wind (RWSC)22 has been established to ensure the long-term success of offshore wind. RWSC is a multi-sector collective created and defined by federal agencies, states, conservation organizations, and offshore wind developers to ensure the responsible and efficient development of offshore wind. RWSC works to facilitate the development of science plans, data standards, research methods, and data management to ensure that offshore wind is developed successfully with minimal impact to marine wildlife and habitat. We urge that BOEM continue to participate in and fund RWSC to support science plan development and to implement the monitoring and research activities identified in the science plan.	Thank you for the comment. BOEM has engaged in, currently engages in, and will continue to engage in monitoring of the potential impacts of offshore wind construction and operations on marine wildlife and the ocean ecosystem to guide its adaptive management and future development.
BOEM-2022-0045-0110	5	BOEM, through RWSC and individually, must also continue to collaborate with state efforts, scientists, NGOs, the wind industry, and other stakeholders to use information from monitoring and other research, and evolving practices and technology to inform cumulative impact analyses moving forward. Best management practices must evolve as monitoring informs impacts and the adaptive management practices needed to account for unanticipated impacts associated with this new industry. Likewise, analyses should include more specific information related to impacts of offshore wind development and operation on wildlife as it becomes available and management practices advance. As monitoring informs management practices, BOEM must require continued monitoring and employment of adaptive management practices by offshore wind projects. This will ensure that BOEM can swiftly minimize damages of unintended or unanticipated impacts to coastal ecosystems or wildlife and inform strategies for future wind projects to avoid potential impacts.	Thank you for the comment. BOEM has engaged in, currently engages in, and will continue to engage in collaboration with stakeholders to share information from monitoring and other research.
BOEM-2022-0045-0091	6	While the development of offshore wind presents an exciting new opportunity to expand our portfolio of clean renewable energy resources, we emphasize that such opportunities must be taken advantage of in a manner that minimizes potential harm to the ecosystems and wildlife that may be impacted. Offshore wind is a new industry operating in areas that present logistical challenges and about which there may be imperfect information. With that in mind, we commend the effort being undertaken to ensure that the project proceeds with a minimal environmental footprint. Fundamental criteria necessary to ensure a strong framework to help mitigate potential environmental and ecological impacts include the need for flexibility through an adaptive operational plan approach that can meet changing circumstances,15 (2) robust and continuing stakeholder engagement, and (3) a robust data gathering, sharing, and management plan. Given the relative novelty offshore wind installations along the northeast coast of the United States, there is likely	Appendix F of the FEIS has updated the comprehensive list of monitoring and mitigation being considered and evaluated. Many of these measures require evaluation of the effectiveness of a mitigation measure or to identify if resources are responding as predicted to impacts from the approved activities. Monitoring programs are developed in coordination with agencies with jurisdiction over the resource to be monitored. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies.

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		much we don't know about the potential long-term impacts of these projects. Accordingly a sustained monitoring and research effort that informs necessary course-corrections to the operation of the project and environmental mitigation efforts is essential. We also support the need for robust stakeholder engagement and input throughout each stage of the project. Any and all mitigation plans developed must be transparent and subject to independent review. Any proposed changes to established mitigation plan should be made publicly available and subject to stakeholder input prior to adoption. Likewise, all research and results of ongoing monitoring efforts should be published to ensure adequate transparency and to inform the development and operation of other offshore wind installations.	The information generated by monitoring may be used to 1) modify how a mitigation measure identified in the COP or ROD is being implemented, 2) develop measures for future projects, and/or 3) contribute to regional efforts for better understanding the impacts and benefits resulting from offshore wind energy projects in the Atlantic (e.g., a potential cumulative impact assessment tool).
BOEM-2022-0045-0078	6	Scientific Research and Monitoring We appreciate ongoing efforts by BOEM and developers to conduct ecological monitoring in the lease areas, and to contribute funds to both regional fisheries research and long-term regional monitoring of wildlife impacts. Conducting scientific research and pre-construction, during construction, and post-construction monitoring to advance our collective understanding of the effects of offshore wind development on marine and coastal resources and ocean uses is essential. Science should be conducted in a collaborative and transparent manner, utilizing recognized marine experts, engaging relevant stakeholders, and making results publicly available and timely shared, as appropriate on the Northeast and Mid-Atlantic Ocean Data Portals and other public platforms. Regional groups like the Responsible Offshore Science Aliance (ROSA) and the Regional Wildlife Science Collaborative (RWSC) have created multi-sectoral expert groups who could be engaged to enhance these cross-project collaborations. Also, we recognize that evaluating cumulative impacts is a challenging and emerging science, but it also an opportunity to guide offshore wind development and project design over the next decade. We reference again here a few relevant papers describing the challenges and possible approaches to offshore wind cumulative impact analyses.	Thank you for your comment and recommended literature. BOEM fully supports regional monitoring, research and sharing data with the public as offshore wind development progresses and will incorporate results in analysis supporting future decisions.
BOEM-2022-0045-0069	6	Support NOAA's efforts to minimize impacts to, or adapt, fish, invertebrate, and marine mammal monitoring surveys in and around the wind energy area, as well as along the cable route. These surveys provide some of the primary data used for informed fisheries and wildlife management decisions, and disruptions to such long-term monitoring efforts will introduce additional uncertainty into stock assessments and population monitoring. These assessments are the primary tools used to manage and protect the resources, of which have directly effects on commercial and recreational fishing.	The Revolution Wind COP includes a Fisheries and Benthic Monitoring Plan which has been incorporated into the EIS as part of the proposed action. The results of the surveys and monitoring efforts outlined in this plan will be distributed to researchers through participation in regional telemetry networks such as the Ocean Tracking Network or the Mid-Atlantic Acoustic Telemetry Network (MATOS), and provide valuable long-term data on fish populations and behavior in the project area. Revolution Wind will also disseminate the annual monitoring results through a webinar or an in-person meeting which will also offer an open forum for federal, state, and academic scientists to ask questions or provide feedback on the data collection protocols. Likewise, following each year of monitoring Revolution Wind will coordinate with the Contractor(s) to host an industry workshop to disseminate the results of the monitoring activities to local fishing industry members. Although all interested stakeholders will be invited to the industry workshops, concerted efforts will be made to ensure that members of the Rhode Island Fishermen's Advisory Board (FAB) and the Massachusetts Fisheries Working group attend. Specifics on the implementation of proposed mitigation measures is found in Appendix F, which has been updated with additional details based on public comments on the Draft EIS, consultations with NMFS, *Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585* (BOEM 2022), and the recently published *NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy* (NOAA 2022). Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies.
BOEM-2022-0045-0091	7	Among the additional qualitative factors to be considered in evaluating the relative merits and strengths of any plans and practices to avoid, minimize, and mitigate current known and future discovered impacts to wildlife, natural resources, ecosystems and traditional or existing water-dependent uses, including, but not limited to, commercial fishing. Essential elements to be evaluated within the scope of a proposed project should include: • The establishment of an ecological mitigation fund to guarantee the ability to successfully mitigate environmental harm and economic impact to commercial fisheries. • Plans for assessing alternatives to, and alternative approaches for,	See response to comment 2022-0045-0091-6 for more on monitoring and adaptive management. BOEM incorporates fishing industry recommendations into the leasing process by: issuing guidelines to leaseholders or including lease stipulations to develop

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		decommissioning the project. The impact of decommissioning on the surrounding ecosystem should be the first and highest consideration. • A commitment to habitat restoration, and a requirement for funding such restoration through an environmental mitigation and restoration fund, if needed to return the area to pre-built ecological function. • Plans for a cumulative impact analysis that considers the impacts of the project in conjunction with pending and anticipated projects in other offshore lease areas.	and implement a fisheries communication plan, developing a fishing industry webpage, and working closely with state partners to address regional fisheries monitoring associated with potential impacts from offshore wind development. BOEM has proposed guidance to lessees for mitigating impacts on commercial and recreational fisheries related to project siting, design, navigation, access, safety measures, and financial compensation (BOEM 2022). Together with implementation of the Federal Survey Mitigation Implementation Strategy (Hare et. al. 2022), the proposed mitigation measures would reduce adverse impacts on commercial fisheries and for-hire recreational fishing. The proposed mitigation measures are listed in Appendix F, Table F-2 and Table F-3. Conceptual decommissioning plans in the COP must include broad coverage of not only deconstruction and site clearance activities, but also potential impacts to the surrounding environment and potential mitigation measures. For a complete list of BOEM's conceptual decommissioning plan requirements for a COP, see BOEM's Information Guidelines for a Renewable Energy COP at: https://www.boem.gov/COP-Guidelines/. At the end of the Project's operational life (20 to 35 years), Revolution Wind would be required to submit a detailed project decommissioning application. As described in Section 2.1.2.5 of the FEIS, Revolution Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project in compliance with applicable laws, regulations, and best management practices at that time, which would be subject to BOEM review and approval. At that time BOEM would also conduct a NEPA sufficiency review of the proposed decommissioning activities. See BOEM's technical report for information on the decommissioning process and requirements for offshore wind projects: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Decommissioning%20White%20Paper.pdf. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives. The EIS analyzes cumulative impacts of the Proposed Action and action alternatives in combination with ongoing and planned activities (including other non-offshore wind and offshore-wind activities) as described in Appendix E, Planned Activities Scenario.
BOEM-2022-0045-0100	9	As we have highlighted in past comments, the evaluation and implementation of mitigation measures is a critical component of the analysis in any NEPA document. We recommend the FEIS analyze and describe the anticipated impacts of the proposed action, mitigation measures considered to be part of that action, the effectiveness of these measures, and the expected impacts if mitigation methods are applied. This structure is necessary to support the final impact determinations. An important element of that analysis is the likelihood (or not) that such measures will be committed to, adopted, and implemented. The mitigation and monitoring measures for the proposed action as well as additional measures are only briefly referenced in the document with little analysis of their effectiveness. There are several instances where assumptions about the success of mitigation measures are made despite the lack of evidence or necessary associated actions. This is the case for mitigation for cod spawning impacts, as described above, for fisheries impacts, and for impacts on NOAA fisheries scientific surveys. Specifically, the document unreasonably relies on the anticipated success of fisheries mitigation guidance that has not yet been finalized or implemented by BOEM. Moreover, the draft NMFS/BOEM Federal Survey Mitigation Implementation Strategy has neither resulted in developed mitigation plans for any affected federal survey, nor acquired the	Revolution Wind's committed mitigation measures (i.e., Environmental Protection Measures [EPMs]) are outlined in the COP and analyzed as part of the Proposed Action, and as such contribute to the impact level conclusions. BOEM evaluates proposed mitigation measures (i.e., not EPMs) for each resource in Chapter 3, and describes whether implementation of the measure would result in reduced impacts. Specifics on the implementation of proposed mitigation measures is found in Appendix F, which has been updated with additional details based on pubic comments on the Draft EIS, consultations with NMFS, and the recently published *NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy* (NOAA 2022).

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		necessary funding to support such efforts. Therefore, the anticipated success of these mitigation strategies is premature and unreasonably optimistic.	
BOEM-2022-0045-0100	10	The DEIS also still contains sections where BOEM is relying on mitigation measures to reduce impacts but does not specify which of these measures, if any, are factored into the impact determination. For example, in the analysis of impacts to marine mammals from nighttime pile driving (an activity that is part of the developer's proposed action), it is unclear in the document whether BOEM's impact determination considered only those mitigation measures proposed by the developer as part of the COP, additional time-of-day pile driving restrictions that may be imposed by BOEM as a condition of COP approval, or any additional mitigation measures. While we understand that a final commitment to additional measures cannot be made until the ROD and COP approval decision stage, the FEIS should be explicit as to what additional mitigation measures beyond the applicant's proposed measures are anticipated to be required and which measures were relied on in reaching the impact conclusions.	Thank you for your recommendation. Effect determinations in the EIS consider EPMs that are proposed by the applicant and therefore are considered part of the Proposed Action. Each resource section in Chapter 3 contains a separate mitigation section that discusses potential additional mitigation measures that could be applied to the project. These mitigation sections have been refined in the EIS to provide further clarity on what additional mitigation measures beyond the applicant's proposed measures are anticipated to be required and how they affect impact conclusions. The EIS has also been revised in Section 3.3 to provide further clarity to the reader that mitigation measures are not included in impact determinations preceding the mitigation section.
BOEM-2022-0045-0110	11	BOEM needs to rigorously review the potential impacts of offshore wind development on marine wildlife and habitat, including potential impacts related to future projects at the scale envisioned by the President's offshore wind goals, to ensure appropriate mitigation measures are developed and adopted.	Thank you for the comment. Reasonably foreseeable future offshore wind projects were evaluated as part of the cumulative analysis for each resource throughout Chapter 3.
BOEM-2022-0045-0110	17	We also urge BOEM to require Revolution Wind Farm to undertake mitigation and monitoring measures identified in the Draft EIS.	Thank you for the comment. Appendix F Environmental Protection Measures, Mitigation, and Monitoring presents the Environmental Protection Measures committed to by the developer and included in the Proposed Action, Mitigation Measures resulting from consultations, and potential additional Mitigation and Monitoring Measures proposed by BOEM. The Record of Decision will include any additional mitigation and monitoring measures from the Final EIS that BOEM is requiring under NEPA, should the COP be approved or approved with modification.
BOEM-2022-0045-0071	20	The recommendations outlined in our offshore wind energy policies, referenced above, should be reflected as terms and conditions for approval of the Revolution Wind project. We provided a separate comment letter on the draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries.3 We support many of the mitigation measures recommended in that draft guidance. We recommend that all final mitigation guidelines be reflected in terms and conditions for BOEM's approval of Revolution Wind. For example, the project design envelope for Revolution Wind includes burial depths of 4 to 6 feet for inter-array and substation interconnection cables. BOEM's draft fisheries mitigation guidelines recommend a minimum cable burial depth of 6 feet. Although the Councils have not endorsed a specific cable burial depth to minimize impacts to fisheries, we strongly support the draft guidance recommending a minimum burial depth of 6 feet. We recommend that BOEM not approve any cable burial depths of less than 6 feet for Revolution Wind or any other wind projects.	Appendix F of the EIS has updated the comprehensive list of monitoring and mitigation being considered and evaluated. Specifics on the implementation of proposed mitigation measures is found in Appendix F, which has been updated with additional details based on pubic comments on the Draft EIS, consultations with NMFS, *Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585* (BOEM 2022), and the recently published *NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy* (NOAA 2022). Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies.
BOEM-2022-0045-0086	60	The DEIS contains referenced mitigation, however, the effectiveness of referenced mitigation is conclusionary and without any specifics as to its content or feasibility. Consequently, some described impacts within the DEIS range from minor to major, leaving the reader with little understanding of the agency's impact determinations. Many of these impacts and their possible mitigation have been addressed in more detail by BOEM in previous wind farm FEISs.	Thank you for your comment. Each resource section in Chapter 3 contains a separate mitigation section that discusses potential additional mitigation measures that could be applied to the project. These mitigation sections have been refined in the FEIS to provide further clarity on what additional mitigation measures beyond the applicant's proposed measures are anticipated to be required and how they affect impact conclusions.
BOEM-2022-0045-0086	61	The DEIS deferred most impact conclusions to the FEIS as well as the eventual scope of the proposed mitigation, and, consequently, making it difficult for the public to responsibly comment. We recommend that the FEIS clearly establishes the expected level or degree of impacts prior to mitigation, and specifically describe all mitigation that is under consideration for these impacts.	Thank you for your comment. Each resource section in Chapter 3 contains a separate mitigation section that discusses potential additional mitigation measures that could be applied to the project. These mitigation sections have been refined in the FEIS to provide further clarity on what additional mitigation measures beyond the applicant's proposed measures are anticipated to be required and how they affect impact conclusions.

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BOEM-2022-0045-0086	90	Appendix F: Mitigation measures (e.g., establishment of exclusion and monitoring zones) associated with HRG surveys or UXO detonation activity are not mentioned within Appendix F. This is inconsistent with what is included within the DEIS body language as well as the Revolution Wind LOA application.	As stated in the COP, if required, detonation is considered a short-term disturbance in the immediate area of the confirmed MEC/UXO and will occur prior to seafloor preparation and construction and installation activities. Detonation will only be used where avoidance or other methods of removal are deemed impractical or unsafe. As stated in Appendix F Table F-2 the measures required by the final MMPA Letter of Authorization (LOA) for Incidental Take Regulations would be incorporated into COP approval, and BOEM and/or BSEE will monitor compliance with these measures.
BOEM-2022-0045-0100	206	Please distinguish between the mitigation and monitoring measures proposed by Revolution Wind and those that BOEM is proposing (e.g., restrictions on nighttime pile driving).	Thank you for the comment. Each resource section in Chapter 3 contains a separate mitigation section that discusses potential additional mitigation measures that could be applied to the project. These mitigation sections have been refined in the EIS to provide further clarity on what additional mitigation measures beyond the applicant's proposed measures are anticipated to be required and how they affect impact conclusions. The EIS has also been revised in Section 3.3 to provide further clarity to the reader that mitigation measures are not included in impact determinations preceding the mitigation section. EIS Appendix F, Table F-1, lists applicant-committed Environmental Protection Measures (EPMs) for the project, and Table F-2 and Table F-3 list agency-proposed mitigation measures for the project.
BOEM-2022-0045-0100	207	Revolution Wind must monitor clearance and shutdown zones, not exclusion and monitoring zones. NMFS requires that PSOs monitor as visibility allows, rather than limit monitoring to a particular zone. Please correct this in Table F-1.	The measures in Table F-1 are the applicant proposed EPMs as presented in the COP. BOEM has included updated mitigation measures in Table F-2 for monitoring of clearance and shutdown zones, including updates from the NMFS ESA consultation and MMPA rulemaking.
BOEM-2022-0045-0100	208	Revolution Wind must conduct sound field verification on the first 3 pile installations, and additional pile installations should installation conditions change (e.g., water depth, substrate), to satisfy the MMPA ITA requirements. Please correct the text to reflect this requirement.	The number of piles will be determined by NMFS through the MMPA rulemaking process. BOEM will update the NMFS-proposed measures once the draft LOA is available. The measures in Table F-1 are the applicant proposed EPMs as presented in the COP. These updates have been applied to the measures outlined in Table F-2.
BOEM-2022-0045-0100	209	Please include the following: Visual observers may be third-party observers (i.e., NMFS-approved PSOs) or crew members, dependent on ensuring crew members acting as dedicated observers receive prior training on protected species detection and identification, vessel strike minimization procedures, how and when to communicate with the vessel captain, and reporting requirements in the IHA.	Visual observers may be PSOs or Trained Lookouts that act as dedicated observers that receive prior training on protected species detection and identification, vessel strike minimization procedures, how and when to communicate with the vessel captain, and reporting requirements
BOEM-2022-0045-0100	210	EPM MM10: Please include time of day restrictions on pile driving if BOEM intends to impose them.	BOEM is not proposing time of day restrictions at this time. BOEM has included updated measures in Table F-2 for monitoring of clearance and shutdown zones, including updates from the NMFS ESA consultation and MMPA rulemaking.
BOEM-2022-0045-0100	211	Please include that Revolution Wind would be required to employ trained PAM operators in addition visual PSOs.	BOEM has included trained PAM operators in addition to trained PSOs.
BOEM-2022-0045-0100	212	Please note that NMFS would require that the PAM Plan, Sound Field Verification Plan, and Pile driving Monitoring Plan be submitted 180 days prior to the start of pile driving.	Requested edit has been incorporated as a NMFS-proposed measure.
BOEM-2022-0045-0100	213	Please clarify that NMFS will decide whether or not zone sizes may be modified based on Sound Field Verification data. The way it is currently written implies that BOEM and BSEE would be part of that decision-making process.	BOEM and BSEE must approve any changes to the COP approval conditions or compliance with the conditions therein. BOEM and BSEE are also responsible for reviewing the sound source field verification results. BOEM holds the primary expertise between the two agencies through our Center for Marine Acoustics which has published guidelines for conducting source measurements.

Navigation and Vessel Traffic

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BOEM-2022-0045-0058	3	Because of the RWF's proximity to these ports, the Coast Guard anticipates an increased traffic density in the Buzzards Bay approach and in the vicinity of the RWF. Accordingly, it is imperative that all the mitigations listed in Appendix F, consistent with the USCG's input to previous projects, be made mandatory.	BOEM will consider adopting and translating mitigation measures in to terms & conditions of the COP approval and will develop the language of those terms and conditions with USCG input.
BOEM-2022-0045-0070	3	The Port of New Bedford is continually undertaking port improvements to support offshore wind development. We are also in the initial stages of developing a harbor Vessel Management Plan, which will take into account current and future offshore wind activity. In addition, we are updating our mandated Municipal Harbor Plan in conjunction with Town of Fairhaven, MA. The Project filing states that temporary localized minor to moderate adverse impacts to ports and navigation would be expected. Furthermore, "Construction activities would result in increased vessel traffic near the lease areas and ports used as well as obstructions to navigation and changes to navigation patterns. Additional impacts would include delays within or approaching ports; increased navigational complexity; detours to offshore travel or port approaches; or increased risk of incidents such as collision, strikes or allisions, and groundings. Other reasonably foreseeable future offshore projects would produce additional vessel traffic during." (p. 3.16-8) With the initial phases of construction tentatively scheduled as early as the first quarter of 2023, state and local agencies are responsible for minimizing the potential adverse impacts of additional port utilization by managing traffic to ensure access to ports. It is critical that any port taking part in any aspect of the Project be identified at the earliest possible stage of the proposed development. Preparation for such activity will help ensure port managers can maintain safe and reliable operations and infrastructure for the benefit of all harbor users.	Thank you for your comment; Ports listed in the COP describe the PDE. Port improvement projects are discussed in Appendix E of the EIS.
BOEM-2022-0045-0058	4	a) Periodic Review: The wind farm installation and operation, including the control center and its operators, and all plans and policies related thereto, should be subject to regular review by the Coast Guard on at least an annual basis, or more frequently if circumstances dictate. The Coast Guard should be included in emergency response exercises.	BOEM will consider adopting and translating mitigation measures in to terms & conditions of the COP approval and will develop the language of those terms and conditions with USCG input.
BOEM-2022-0045-0058	5	b) Safety Zones: The establishment of safety zones or other regulated navigation areas should not be used as the key mitigating factor when considering risks and impacts. Commander, Coast Guard First District may consider safety zones in the RWF lease area, but safety zones will not be granted for the sole purpose of keeping project construction on track.	Thank you for the comment. Edits made to clarify the developer will request USCG to establish safety zones.
BOEM-2022-0045-0058	6	c) Post ROD involvement: The USCG requests timely access to construction plans, such as Facility Design Reports and/or Fabrication Installation Reports that may identify activities that impact the USCG missions or the Marine Transportation System, especially Cable Burial Plans and their associated risk and feasibility assessments. Early and easy access to these documents may prevent conflicts with planned activities.	BOEM will continue coordinating with USCG, and will consider adopting and translating certain mitigation measures into terms & conditions of the COP approval.
BOEM-2022-0045-0058	7	d) Amending Mitigations: The Coast Guard requests the opportunity to suggest amendments to approved mitigations and terms and conditions at any time before, during, or after installation of the wind farm should material facts or circumstances come to light that were either unforeseen or were not reasonably available at the time these conditions were issued.	Any post-approval modifications to the Terms and Conditions of Construction and Operations plan approval is out of scope for NEPA.
BOEM-2022-0045-0058	8	e) Re-Evaluation: The Coast Guard requests the opportunity to re-evaluate any required analyses submitted by Revolution Wind, or require additional analysis after installation (e.g., to determine post-installation radar and communications impact).	BOEM will continue to coordinate with the USCG throughout the remainder of the process. BOEM welcomes any post installation study proposals as mitigation measures.
BOEM-2022-0045-0059	11	Section 3.16 of the DEIS, "Navigation and Vessel Traffic" relies on incomplete information and is unjustifiably restricted to a limited geographic area. The cumulative navigational only includes the listed MA/RI wind leases OCS-A 0487, OCS-A 0500, OCS-A 0501, OCS-A 0517, OCS-A 0520, OCS-A 0521, and OCS-A 0522.67 However, federally permitted commercial fisheries operating in the region will be encountering and affected by offshore wind leases not only off MA and RI but also off NY, the NY Bight, NJ, DE, MD, VA and NC, as well as the Gulf of Maine and Central Atlantic Call Area. Only consideration of projects over that entire region can estimate the true cumulative impact to federally permitted commercial fisheries by BOEM's offshore wind plans in the Atlantic. Analyzing anything less than that is a segmentation of NEPA analysis that will downgrade impacts. A full regional impact for the Greater Atlantic Region must be conducted by an independent body. Project specific navigational risk assessments and "cumulative" analysis limited to the leases closest to the Proposed Action are inadequate to assess impacts. Furthermore, a developer's navigational risk assessment cannot be the primary source of data for assessing impacts, as there exists a clear conflict of interest on the part of the developer or developer's contractors to minimize impacts. Project specific navigational risk assessments are inadequate when the analysis is meant to identify impacts to mobile vessels which operate over large regions covered with multiple wind farm leases. Cumulative and regional assessments are necessary. These assessments must include all aspects of navigation and mariner safety, including marine vessel radar interference analysis and HF radar	BOEM maintains that the GAA and future OSW projects considered in Section 3.16 is a reasonable estimate for purposes of analyzing cumulative impacts from the proposed action. Updates have been made to Section 3.16 of the EIS to incorporate the National Academies of Science, Engineering, and Medicine 2022 study and more discussion on marine vessel radar. Marine vessel radars are not optimized to operate in a WTG environment due to a combination of factors ranging from the slow adoption of solid-state technology to the electromagnetic characteristics of WTGs (National Academies of Sciences, Engineering, and Medicine 2022). USCG also noted in its final Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (USCG 2020) that various factors play a role in potential marine radar interference by offshore wind infrastructure, stating that "the potential for interference with marine radar is site specific and depends on many factors including, but not limited to, turbine size, array layouts, number of turbines, construction material(s), and

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		interference analysis, including impacts to USCG search and rescue capabilities resulting from HF radar loss. We request that BOEM update the DEIS with this information. The DEIS references the USCG's MARIPARS as a primary source of information for its Navigation and Vessel Traffic section. We commented on that study, in both 2019 and 2020, which comments we incorporate by reference here.68 One of the primary issues we discussed in our comments was marine vessel radar interference and requested that the USCG conduct modeling studies and analysis on that subject related to the MA/RI Wind Energy Area, similar to its modeling study that it had conducted for the Cape Wind project. The USCG declined to conduct that modeling, resulting in a recent bipartisan Congressional letter from the US House Transportation and Infrastructure Committee to the USCG, which we have included as part of our comments. The US House Transportation and Infrastructure Committee acknowledged that the USCG has allowed BOEM to drive the offshore wind planning process with regards to maritime safety and ignored concerns about radar interference and search and rescue capabilities. We request that BOEM send an official request to the USCG, as a cooperating agency, to conduct an independent marine vessel radar modeling study using updated turbine parameters expected for the MA/RI Wind Energy Area projects and include the results of that modeling study in an updated Revolution Wind DEIS. We also request that BOEM send an official request to the USCG, as a cooperating agency, to conduct analysis of diminished search and rescue capabilities resulting from both marine vessel radar interference on its own vessels as well as the loss of HF radar due to interference from the cumulative impacts of offshore wind project turbines and include analysis results in an updated Revolution Wind DEIS. It is the USCG which holds the independent and sole responsibility of ensuring US maritime safety, not analysis from the offshore wind developer's navigational risk assessment. We also point out that BOEM has neglected to include the results of the National Academies of Sciences (NAS) 2022 study entitled "Wind Turbine Generator Impacts to Marine Vessel Radar (2022)" as a reference document in the Revolution Wind DEIS, despite the fact that the study was supported by contracts between the National Academy of Sciences and Bureau of Ocean Energy Management under Award Number 140M0119D0001/140M0121F0013.69 BOEM contracted to have the study conducted but now has omitted the study and results from that study in its Revolution Wind DEIS. This is unacceptable and we request that BOEM update and revise its DEIS with this information included and analyzed in the DEIS Alternatives. The NAS study quotes Seafreeze comments submitted to the USCG MARIPARS in its actual analysis on page 15, Figure 1.3. The USCG did not address these impacts in the MARIPARS, however the NAS study validates that they are a concern. In fact, the NAS report opens with "Marine vessel radars are not presently optimized to operate in a WTG environment. Marine WTGs are very large structures, with towers on the order of several hundred meters and blade lengths exceeding 100 meters. Being heavily composed of steel, the nominal WTG structure has a large radar cross section. Furthermore, many hundreds to thousands of WTGs will be constructed throughout the U.S. OCS. The combination of high radar reflectivity and vast number of WTGs leads to many strong reflected signals entering the radar receiver, further complicated by other factors, such as multipath and range ambiguous returns. In addition, blade motion generates aspect-dependent, Doppler-spread interference. These various effects, left unresolved, combine to complicate navigation decision-making. Certainly, there is a need to collect more data, develop physics-based models, identify key failure mechanisms, and devise mitigating strategies to effectively manage the situation."70 This statement alone should necessitate a cumulative impacts modeling analysis for the Revolution Wind DEIS including all current wind leases on the US East Coast, and in particular for a vessel attempting to transit through the MA/RI Wind Energy Area, as BOEM expects vessels to do in a safe manner. There is no factual basis for this expectation. Currently, no proven mitigation methods exist for marine vessel radar interference in the presence of wind turbines. The NAS report states, "WTGs reduce the effectiveness of both magnetron-based and Doppler-based MVR radar…It is noteworthy that there are no published studies of WTG interference on Doppler-based solid state radar used for marine navigation".71 Key findings of the NAS committee included "no standard approach to active radar deployment for operation in a WTG environment is available" and that the USCG recognizes that "how MVR will lose efficacy in a WTG environment, and corresponding impact on navigation performance, requires in-depth testing and evaluation".72 Considering these facts, it is inexplicable that BOEM can conclude that impacts to navigation from the Proposed Action merely range from negligible to moderate, with moderate impacts being temporary.73 These are illogical conclusions; however, BOEM has omitted a key study from the DEIS that it itself paid for. We request that the NSAS study and results be added to the DEIS and conclusions regarding navigation re-analyzed, in addition to the USCG modeling analysis requested above.	the vessel types." BOEM expects the industry to adopt both technological and non- technology-based measures to reduce impacts on marine radar, including greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watchstanders, and avoiding wind farms altogether.
BOEM-2022-0045-0116	13	And I have stated more than once how important the Right Whale is to our culture. There are 340 of those whales in the world, in the world. I am concerned with the boat traffic. How many of these boats are going to be running back-and-forth? Where they're coming from, where are they going to be in the harbor?	Thank you for the comment. Please refer to Table 3.16-3, which states that up to 59 construction vessels could be involved during construction. Operations traffic would be much lower. Please see Figure 3.16-1 for the ports that could be used for wind farm activities. Table 3.16-4 gives the cumulative number of vessels from other offshore wind projects that could be active during

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			construction and operations. Table 3.16-3 and Table 3.16-4 were updated after the DEIS was published based on updated information provided by the developer. Where these vessels would transit and moor would depend on each project's supply ports. BOEM expects that future offshore wind projects would include similar Environmental Protection Measures to those proposed for this project, which include vessel speed restrictions to minimize vessel strike risk for North Atlantic right whale and other marine mammals. Please refer to Section 3.15 Marine Mammals for details.
BOEM-2022-0045-0065	14	The DEIS continues BOEM and USCG's inconsistent presentations of their respective authorities regarding the analysis, and potentially designation, of transit lanes and relevant safety considerations. This topic is well documented in previous RODA letters to both agencies, and the problem was even recently highlighted in a letter from the U.S. Congress Transportation and Infrastructure Committee to USCG.20 In this DEIS, BOEM perpetuates confusion by stating the developer's proposed layout "meets the layout rules set forth in the MARIPARS report Recommendations" (emphasis added).21 This contrasts with USCG's denial of RODA's Information Quality Act appeal of the MARIPARS, which states that "the MARIPARS, like any PARS, is a study intended to make recommendations, and is not a decision in and of itself."22 Moreover, BOEM's reliance on the MARIPARS to conclude there is not incomplete or unavailable information on navigation and vessel traffic that is essential to a reasoned choice among alternatives" directly contradicts the denial letter's assertion that "the [MARIPARS] analysis was neither scientific nor statistical in nature."	The USCG is a cooperating agency on the DEIS and is the leading agency on navigational matters. Therefore, BOEM relies on the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
BOEM-2022-0045-0101	16	Recommended Action Items. Develop mitigation measures for the following conditions: • The potential impacts of WTG structural failure to vessel navigation and traffic.	Thank you for your comment. An event of this nature is described in Section 2.2, Table 2.21. In the event of a non-routine or low-probability event, Revolution Wind would consult with local, state, and federal agencies as well as other groups to communicate the hazard according to mitigation measure Nav-8 in Appendix F, Table F-1.
BOEM-2022-0045-0086	52	Revolution Wind would like to clarify that NOAA will not supply any physical or virtual Automatic Identification System (AIS) systems. These systems are supplied by the developer, and their deployment is subject to USCG regulation. Furthermore, the USCG does not recommend displaying AIS on all structures at all times, and only requires the capability to do so.	Thank you for the comment.
BOEM-2022-0045-0086	53	BOEM has recognized that developer offered mitigation options or BOEM suggested options will mitigate navigation safety concerns. The 1x1 nm spacing is a compromise to facilitate safe navigation agreed upon by many stakeholders, including adjacent projects. CRMC commented on Vineyard Wind's DEIS stating, "CRMC's preferred alternative of an east-west alignment of the wind farm with 1 nm spacing between turbines and all rows between turbines will allow the Rhode Island-based commercial fishing industry of fixed and mobile gear operations to continue to operate (with modifications to gear and methods) within the Vineyard Wind Wind Development Area (WDA) in a manner that the commercial fishing industry can coexist with the offshore wind energy industry". Revolution Wind respectfully objects to the blanket stipulation that commercial fishing vessels irrespective of fishing vessel and gear type, will be unable to safely fish; while for-hire or recreational vessels, using perhaps the same vessels and with perhaps less training and certifications, will be able to successfully fish the same area.	Thank you for the comment.
BOEM-2022-0045-0086	54	Revolution Wind would like to respectfully point out that USCG Search and Rescue (SAR) Operations are de-optimized by all structures and land masses; by the nature of the Search and Rescue Optimal Planning System (SAROPS) program, a human SAR Planner must account for items in the water such as rocks, bridges, coastline, piers, shoals, powerlines, etc., as well as natural phenomena such as sun glare, wave angle, and human fatigue. It is well within the USCG's training and capability to adapt search patterns, especially in a windfarm specifically designed with a 1X1 nm spacing with two lines of orientation, as consistent with USCG guidance26.	Thank you for the comment.
BOEM-2022-0045-0100	179	Please update Figure 3.16.-1 to reflect that Davisville, RI is also a commercial fishing port.	Thank you for your comment. The map in the navigation section uses the same designations as those used in commercial fisheries and for-hire recreational fishing in Section 3.9. Davisville was not included as a commercial fishing port in that impact analysis because of the low level of fishing activity in the Lease Area and along the RWEC that is associated with this port.

Other Marine Uses

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0070	4	Section 3.17.2.12 addresses mitigation measures for other uses (scientific research and surveys) proposed by BOEM and other cooperating agencies. It is important to reiterate that current and future wind projects do not occur separate from one another. Thus, any review or analysis must consider the cumulative effects of all wind projects on species and their habitat. It is therefore the responsibility of BOEM to assess cumulative impacts across multiple wind energy projects regionally, through all phases of the project and through all life history stages of the various species effected. In adhering to federal survey mitigation guidance, cooperation and collaboration with our regional colleges and universities on data collection and assessment would provide additional valuable data and resources. Additionally, providing opportunities for our fishermen and their vessels to take part as data collectors for research and environmental assessments, or at the very least encouraging a robust engagement between the two industries, could result in more comprehensive and instructive data gathering. As is the case with any new industry introduced into an existing environmental and economically diverse area, the true outcome of the new endeavor will not be known for some time after the industry is underway. There is an element in the submittals by the proponent of the wind developer asking BOEM to trust their numbers and their statements as to impact, or lack thereof. We strongly encourage BOEM to take advantage of its authority to actively monitor a project and require the developer to demonstrate that they not having additional negative impact through the life of the project. There must be some follow-up to make sure that the developer's assertions were indeed accurate. We feel that BOEM must require that a developer confirm the impact of the development at some point after the lease area has been fully operational such as 5 years after construction was commenced. We also feel strongly that it should not be the fishermen or government agencies/institutions who pay for any studies or surveys to assess the actual impact of the development. The proponent of a project who made certain assertions to obtain the permit must be the one to conduct whatever research is necessary to prove their assertions to be correct.	Thank you for your comment. Appendix F identifies all specific mitigation proposed for the Project, the anticipated enforcing agency for each proposed measure, and reporting requirements where applicable. Potential compensatory mitigation is specifically considered related to resolving adverse effects on historic properties, compensation for fishing gear loss or damage, and for lost fishing income, as well as adherence to federal survey mitigation guidance (see Appendix F). Over the course of monitoring, Revolution Wind will work with BOEM and other relevant regulatory agencies to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring, based on an ongoing assessment of monitoring results.
BOEM-2022-0045-0118	6	I had a couple practical comments and then one moving forward in the future. The first two practical ones are to ask that the Corps and BOEM both take into account the Radar Study that was done that says that there may be issues with older radar equipment and interaction with the arrays.	BOEM (2020) conducted a radar impact study for commercial wind development on the mid-Atlantic OCS. This study identified potential issues with older land-based radar and intended mitigation, specifically software upgrades to HF radar to reduce interference effects. The commenter is referred to Section 3.17.2.3.2 (in DEIS Appendix E) for details.
BOEM-2022-0045-0100	15	As we have discussed previously, we have significant concerns related to the major impacts offshore wind will have on our NOAA scientific surveys. Regional offshore wind development projects are the primary cause of immediate impacts on NOAA scientific surveys and research due to the presence of structures, as noted in the DEIS. The DEIS states that implementation of the NMFS/BOEM Federal Survey Mitigation Strategy would reduce effects on commercial fisheries and for-hire recreational fishing from a major adverse impact to a long-term moderate adverse impact level. This conclusion is not supported nor is it consistent with the best available analysis conducted by NMFS. The DEIS does not include any discussion nor details on how these major impacts will be mitigated at the project level other than referencing the ongoing BOEM/NMFS survey mitigation efforts, suggesting that the project would comply with mitigation measures set forth in the federal survey mitigation strategy. However, the mitigation strategy is not currently resourced and does not set requirements or standards with which projects must comply. In order to minimize the major adverse impacts expected on scientific surveys, we recommend mitigation measures be required and implemented before development moves forward, consistent with our joint survey mitigation efforts. As stated in the DEIS, we will continue to work with you to ensure these details can be included in the FEIS.	This comment is a repeat and combination of three individual comments provided by the same commenter. Reader is directed to FDMS Submission #BOEM-2022-0045-0100, Comments #180, #181, and #182 for individual responses.
BOEM-2022-0045-0100	180	The DEIS states that implementation of the NMFS/BOEM Federal Survey Mitigation Strategy would reduce effects on commercial fisheries and for- hire recreational fishing from a major adverse impact to a long-term moderate adverse impact level. This conclusion is not supported nor is it consistent with the best available analysis conducted by NMFS. Please revise.	While the federal survey mitigation strategy is a collaborative path forward to monitor the effects of offshore wind energy and these effects on fisheries surveys, the strategy is not specifically designed to reduce impacts on commercial fisheries and for-hire recreational fisheries. As monitoring becomes mitigation through ongoing collaboration between BOEM, NMFS, and Revolution Wind, beneficial effects to these fisheries may be realized, along with potential beneficial effects associated with habitat creation. The EIS section 3.9 was revised to clarify that the action alternatives would result in major adverse impacts, primarily as a result of climate change, fisheries management activities, and the presence of offshore structures. But the mitigation strategy, in combination with other proposed mitigation measures, could reduce adverse impacts.

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BOEM-2022-0045-0100	181	The DEIS does not include any discussion nor details on how major impacts will be mitigated at the project level other than referencing the ongoing BOEM/NMFS survey mitigation efforts, suggesting that the project would comply with mitigation measures set forth in the federal survey mitigation strategy. However, the mitigation strategy is not currently resourced and does not set requirements or standards for projects to comply.	The federal survey mitigation strategy was the result of collaboration between NMFS and BOEM both of whom will continue to collaborate on survey mitigation strategies. The strategy is a collaborative path forward with goals for mitigation for offshore wind energy impacts through collaborative planning and adaptive implementation. Strategy goals were clarified in the mitigation subsection of the EIS (3.17.2.22), with specific reference to strategy Goal 2, which specifically targets NOAA Fisheries surveys. Objectives and actions provided under Goal 2 were also expanded upon, noting that one of the Goal 2 actions is to evaluate the impact of offshore wind energy through project-specific monitoring plans.
BOEM-2022-0045-0100	182	In order to minimize the major adverse impacts expected on scientific surveys, we recommend mitigation measures be required and implemented before development moves forward, consistent with our joint survey mitigation efforts. As stated in the DEIS, we will continue to work with you to ensure these details can be included in the FEIS.	BOEM has funded a study to define the impacts from offshore wind on NMFS fisheries surveys and to design a modeling framework that could then be conducted in a follow-on study to adapt NMFS fishery resource surveys to impacts of offshore wind development. The study has been designed to answer questions related to BOEM wind energy lease areas impacts to fishery resource surveys and the provisioning of scientific advice for management, appropriate methods to employ to evaluate impacts of offshore wind on NEFSC, and fishery resource survey designs and operations. BOEM will continue to collaborate with NMFS to develop effective mitigation measures to meet the needs of all stakeholders.

Recreation and Tourism

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0080	8	For example, the DEIS does not properly contemplate the effect of the wind turbine generators (WTGs) on tourism from visual effects other than to dismiss the risk. Under NEPA, BOEM must consider a wide range of effects, specifically including impacts that are "historic, cultural, [and] economic." 7 Tourism revenue and property values are vital to the Town of New Shoreham's and City of Newport's economy. Tourism alone is a $7.1 billion industry in Rhode Island, supporting over 87,800 jobs every year. Spoliation of the Town of New Shoreham's and City of Newport's historic landscape increases the risk of lost tourism revenue and property taxes, which are expected to decrease after Revolution Wind, South Fork, Wind, and Sunrise Wind industrialize the ocean landscape with visual clutter and light. Impacts to our clients' tourism economies would be devastating to the economic health of the area and would put tens of thousands of jobs at risk, creating environmental justice risks. Despite this risk, the DEIS' discussion of tourism blithely dismisses potential impacts to Block Island's and Newport's economies without sufficient discussion or supporting research. BOEM cannot support its conclusion that the overall impact to tourism is "minor," especially when Project impacts at the landscape level are expected to range from "moderate" to "major adverse."8 BOEM must carefully consider the impacts on the Town of New Shoreham and City of Newport's unique character and historic properties that qualify as a "resource" both to the area's economy and under NEPA's definition. Negative impacts on tourism revenues and tax revenues due to the WTGs are expected be significant. BOEM must further analyze and quantify these potential adverse effects as BOEM develops the Final EIS. Footnote 7: 40 C.F.R. § 1508.1(g)(1). Footnote 8: DEIS, ES-10. "Moderate" means that a visual impact would have a substantial impact on the viewer's visual experience. DEIS at 3-5. "Major" means that a visual impact would fundamentally change the character, features, elements, key qualities, and visibility of the existing landscape. Id.	Tables G-40 through G-41 discuss seascape, landscape, and visual impacts to the Newport and New Shoreham areas (see KOPs AI03, BI04, BI12, BI13), while tables G-42 through G-47 discuss these impacts across the other action alternatives in the EIS. The EIS concludes that most turbines would be visible from these areas, resulting in moderate to major impacts to the scenic character within the viewsheds enjoyed by recreation, tourism, and historic resources, properties, and activities. However, the impact to recreation, tourism, historic properties and activities may or may not match the impact levels to the visual resource. Impact to visual and scenic resources is one of numerous factors considered when evaluating impacts to recreation, tourism, and historic resources and properties. As discussed in Section 3.18.1, studies and surveys that have evaluated the impacts of offshore wind facilities on tourism found that established offshore wind facilities in Europe did not result in decreased tourist numbers, tourist experience, or tourist revenue, and that Block Island's WTGs provide excellent sites for fishing and shellfishing (Smythe et al. 2018). Research also suggests that at a distance of 15 miles, few beach visitors (only 6%) would select a different beach based on the presence of offshore wind turbines (Parsons and Firestone 2018). The basis of the Parsons and Firestone 2018 study was a hypothetical project depicted in all photomontages with 100 turbines. Each turbine was 6 MW and was 574 feet high (blade at apex) with a rotor diameter of 492 feet. The project design envelope analyzed for the Revolution Wind Project allows for installing wind turbines that may reach 873 feet to the tip of blade (52 percent taller those studied by Parsons and Firestone) with a rotor diameter of 538 feet (9 percent larger rotor diameter than the Parsons and Firestone study). While it is predictable that the percent of social acceptance or change in choice may shift, the shift would not be proportional to the difference in the size and scale of the wind turbines in the 2018 study and those analyzed in this EIS. A 2019 survey of coastal recreation users in New Hampshire (Ferguson et al. 2020) also found that most users (77%) supported offshore wind development along the New Hampshire coast, 74% anticipated that offshore wind development would have a neutral to beneficial impact on their recreational activities, and 26% anticipated that offshore wind development would have an adverse impact (Ferguson et al. 2020). The EIS acknowledges that while some visitors to south-facing coastal or elevated locations could alter their behavior, this changed behavior is unlikely to meaningfully affect the recreation and tourism industry as a whole.
BOEM-2022-0045-0122	14	iv. The DEIS does not address how drastic of a change the RWF would be to Aquinnah as a destination spot. Buses of tourists take the 35-minute journey to Aquinnah for the sole purpose of the Viewshed from the Cliffs and especially at sunset. Destination Weddings are held at the Aquinnah Cliffs area and the Gay Head Lighthouse. The view is the subject of paintings, post cards, and promotion materials for Martha's Vineyard. Once 50 WFGs are erected within 12 miles and another 900 are erected in view of Aquinnah and once the WFGs become the focal point at sunset, tourists are much less likely to make the trip and wedding parties will no longer want a venue where the wedding pictures have WFGs easily seen in the background. According to the DEIS p. 3.18-8, trip loss averaged 8% when the WFGs are 12.5 miles offshore. However, in Aquinnah's case, the Viewshed is almost the sole purpose for the visit and therefore the trip loss will likely be much higher.	Thank you for your comment. Section 3.20 of the EIS discloses potential changes to the viewshed if the proposed action or other action alternatives were to be implemented. Visual impacts associated with the general visual environment for KOP MV07 - Aquinnah Overlook would range from Major to Moderate as a result of the degree of visual change along the ocean horizon considering the potential view value and /or potential sensitivity to visual change. However, the impact to recreation, tourism, historic properties and activities may or may not match the impact levels to the visual resource. Impact to visual and scenic resources is a one factor considered in addition to other factors when evaluating impacts to recreation, tourism, and historic resources and properties. Section 3.3-18 states that visual contrast created by

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			the WTGs could have a beneficial, adverse, or neutral impact on the quality of the recreation and tourism experience depending on the viewer's orientation, activity, and purpose for visiting the area. While some visitors to south-facing coastal or elevated locations could alter their behavior, research suggests that this changed behavior is unlikely to meaningfully affect the recreation and tourism industry as a whole. Increased visitation by individuals who view the WTGs as positive would offset some lost trips from visitors who consider views of WTGs to be negative (Parsons and Firestone 2018). Studies and surveys that have evaluated the impacts of offshore wind facilities on tourism found that established offshore wind facilities in Europe did not result in decreased tourist numbers, tourist experience, or tourist revenue (Smythe et al. 2018).
BOEM-2022-0045-0116	16	I don't -- I have not received the complete picture of the effects on the marine environment, which, in turn, affects the economy of this island that relies so heavily. Not the fishing in and of itself, but also the economic part of it. People come to the island to fish. People come here for tourism. And I'm not so sure that's what they want to see, especially at sunset, because they will be backlit.	Thank you for your comment. Section 3.20 of the DEIS discloses potential changes to the viewshed if the proposed action or other action alternatives were to be implemented. Section 3.3-18 also states that visual contrast created by the WTGs could have a beneficial, adverse, or neutral impact on the quality of the recreation and tourism experience depending on the viewer's orientation, activity, and purpose for visiting the area. As discussed in Section 3.18.1, research suggests that at a distance of 15 miles, few beach visitors (only 6%) would select a different beach based on the presence of offshore wind turbines. An estimated 55 WTGs would fall within this distance, based on the proposed Project array. Considering these factors, BOEM expects the impact of visible WTGs on the use and enjoyment of recreation and tourist facilities and activities during O&M of the Proposed Action Alternative to be long term and minor adverse. While some visitors to south-facing coastal or elevated locations could alter their behavior, this changed behavior is unlikely to meaningfully affect the recreation and tourism industry as a whole. Additionally, increased beach visitation by individuals who view the WTGs as positive would offset some lost trips from visitors who consider views of WTGs to be negative (Parsons and Firestone 2018). Revolution Wind has also committed to implement ADLS (as described in Appendix F) as a measure to reduce the duration of lighting impacts.
BOEM-2022-0045-0086	36	The DEIS also states in Section 3.12.1.1, Page 3.12-14 that "Visual impacts on recreation and tourism would be short term during construction and long term during O&M, with negligible to moderate adverse impacts, based on the observed distance and individual responses by recreationists and visitors to changes in the viewshed." Revolution Wind respectfully requests additional detail or reference support for the statement "responses by recreationists and visitors."	Thank you for your comment. As stated in Section 3.18, "Visual impacts from the presence of vertical structures on the offshore horizon would create a visual contrast contrary to the horizontal plane of the ocean's water surface and the line at the visual horizon that separates the ocean from sky." However, studies and surveys that have evaluated the impacts of offshore wind facilities on tourism found that established offshore wind facilities in Europe did not result in decreased tourist numbers, tourist experience, or tourist revenue, and that Block Island's WTGs provide excellent sites for fishing and shellfishing (Smythe et al. 2018). The proximity of WTGs to shore may be correlated to recreational experience. As noted in Parsons and Firestone (2018), different changes to beach experience occurred based on distance to visible WTGs. Reported trip loss (respondents who stated that they would visit a different beach without offshore wind) averaged 8% when wind projects were 12.5 miles (20 km) offshore, 6% when 15 miles (24.1 km) offshore, and 5% when 20 miles (32 km) offshore. Conversely, approximately 2.6% of respondents were more likely to visit a beach with visible offshore wind facilities at any distance. A 2019 survey of coastal recreation users in New Hampshire (Ferguson et al. 2020) also found that most users (77%) supported offshore wind development

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			along the New Hampshire coast, 74% anticipated that offshore wind development would have a neutral to beneficial impact on their recreational activities, and 26% anticipated that offshore wind development would have an adverse impact (Ferguson et al. 2020). "
BOEM-2022-0045-0100	183	An analysis of private recreational angler exposure should be included based on methodologies of Kirkpatrick et al. 2017 with updated data that is publicly available through MRIP. See section 3.1.4.2 and 3.1.4.2 for methodologies. https://espis.boem.gov/final%20reports/5580.pdf	Information regarding public fishing sites that are located in proximity to project infrastructure that could be temporarily disrupted during construction and potentially impact subsistence anglers has been added to EJ Section 3.12.2.3.1 of the FEIS.
BOEM-2022-0045-0100	184	Please use the Community Social Vulnerability Indicators (CSVIs) Recreational Indicators to identify the communities that are engaged in and reliant on recreational fishing.	Table 3.12-1 of the EIS presents environmental justice indices provided by NMFS (2020) that describe the social vulnerability of coastal communities engaged in fishing activities in terms of existing local social conditions that are likely to determine how potentially disruptive events affect communities. The environmental justice indices in Table 3.12-1 were expanded to include three additional indices.
BOEM-2022-0045-0100	185	It's difficult to assess the full impacts of recreational fishing by separating private angling into tourism and considering for-hire separate. These are overlapping sectors in the economy. Recreational fishing should provide the same environment description and analysis as commercial and for-hire fishing. This section should include more detail regarding trips, species by trips, effort estimates in the region (see MRIP datasets: Access Point Angler Intercept Survey and Fishing Effort survey. https://www.fisheries.noaa.gov/recreational-fishing-data/types-recreational-fishing-surveys). Data is available for the mode of fishing (shore, head boat, charter, private boat/rental boat), time of year, # of trips, catch, geographic location (i.e., open ocean, >3 miles). Note where the data is limited for private angling.	Information regarding public fishing sites that are located in proximity to project infrastructure that could be temporarily disrupted during construction and potentially impact subsistence anglers has been added to EJ Section 3.12 of the FEIS.

Sea Turtles

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0110	43	Specific concerns with Description of Affected Environment and Table 3.19-1: Sea Turtle Species Occurrence: Loggerhead, leatherback, Kemp's ridley, and green turtles are all expected to occur in the Project Area. Occurrence designations are based on the Kenney and Vigness-Raposa (2010) study mentioned earlier, with similar questions here as to the data compiled to come up with the designations for the Project Area (e.g., a need to use combination of historic and recent data sources to calculate total observations in the Project Area). In addition, BOEM's designation of the green turtle as "unlikely/uncommon" is misleading.149 Although they are not abundant in this region, southern New England is a regular part of their range.150 Recent surveys have detected green turtles in the New York Bight and the Rhode Island-Massachusetts WEAs.151 NYSERDA surveys used to detect sea turtles were conducted at high altitudes (1000 ft), making it difficult to both detect sea turtles as well as identify to the species level.152 Additional data sources and resources missing from the data include Project-specific geophysical surveys, additional Northeast Large Pelagic Survey Collaborative (NLPSC) survey data (referred to some survey reports within text but not tables),153 AMAPPS surveys,154 and New York Bight surveys.155 BOEM lists the seasonal occurrence for all turtle species as May to November but also needs to mention that they can occur outside these months as well.	Additional and more recent surveys have been reviewed and incorporated as applicable.
BOEM-2022-0045-0110	44	Specific concerns with Description of Affected Environment and Table 3.19-1: Abundance Estimates for Sea Turtles: The Navy study referenced for sea turtle density estimates is out of date and does not include all species or cover all seasons.156 New sea turtle density models are to be released imminently; these data should be used to update estimates for the Project Area.	Sea turtle density estimates were revised consistent with updated information presented in the NMFS Section 7 consultation.
BOEM-2022-0045-0110	47	For sea turtles, BOEM has determined through its impact analysis that impacts will be "negligible to minor adverse; minor beneficial".161 BOEM's determination is based on the potential for the presence of offshore wind structures to be beneficial to individual sea turtles due to the creation of artificial reefs, additional foraging habitat, shelter from predation and strong currents. We urge BOEM to carefully consider how these changes are counterbalanced by adverse impacts from pile-driving noise and increased vessel traffic.	Comment noted. BOEM has reviewed the impact determination and has maintained the conclusion of negligible to minor adverse; minor beneficial as it accurately represents the range of potential impacts in accordance with Table 3.32. Definitions of Potential Adverse Impact Levels .
BOEM-2022-0045-0086	87	Page 3.19-9, Section 3.19.1.1: The statement: "As described in Section 3.19.1, sea turtle populations likely to be impacted by the Project are…" is within future offshore wind activity without the Proposed Action but the phrasing refers to Project-related impacts. The sentence should be re-written to address offshore wind activity without the Proposed Action.	Comment noted. Language has been revised to refer to future off-shore wind activities.
BOEM-2022-0045-0100	186	Global comment: This section notes that "GAAs are not used as a basis for analyzing the direct and indirect effects of the Proposed Action, which represent a subset of these broader effects and expressed over a smaller area. These impacts are analyzed specific to each IPF." This language is also used in other sections of the document, but in general, the intent and relevance of this statement are unclear as written, and it should be revised. Please see additional comments on GAAs and scale of impacts in the attached letter.	Language regarding the sea turtle GAA was revised to clarify that the intent of the GAAs used in this EIS is to define a reasonable boundary for assessing the potential effects, including cumulative effects, resulting from the IPF with the maximum area of impact from the development of an offshore wind energy industry on the mid-Atlantic OCS.
BOEM-2022-0045-0100	187	Global comment: The Gulf of Mexico is listed as a potential port and thus at least a portion of the Gulf and connecting waters are part of the Affected Environment; however, the DEIS does not consider hawksbill sea turtles or ESA-listed species that occur in the Gulf of Mexico. This issue should be rectified in coordination with the BA prepared for the ESA section 7 consultation. Revisions may be needed to other chapters in addition to sea turtles if activities are planned in the Gulf of Mexico.	The Section 7 consultation has been revised to incorporate vessel trips to distant ports, including ports in the Gulf of Mexico. Construction vessel trips to the Gulf of Mexico would cross habitats used by hawksbill sea turtle. However, the need for these vessel trips is not certain and no specific ports have been identified. Based on the small number of potential vessel trips each year (16-17), this potential activity would not measurably change cumulative effects on this species. The EIS analysis was updated accordingly.
BOEM-2022-0045-0100	188	Global Comment: As the DEIS is revised, to ensure consistency between documents please refer to the recent comments we have submitted to BOEM on the BA prepared for the ESA section 7 consultation.	The Final EIS has been reviewed to ensure consistency with the updated BA in response to comments, where applicable and necessary.
BOEM-2022-0045-0100	189	Global comment: The sea turtle density estimates do not match those in the South Fork Biological Opinion which seems to be based on the same data sources. In general they are lower than those presented in the South Fork BiOp. For example, Kemp's and greens are 0.009 in the SF BiOp and 0.0001 in the RevWind BA, though they both refer to the SERDP data for these densities. Loggerheads and leatherbacks look the same in the summer and fall, but have different densities in winter and spring (again from SERDP). This issue should be rectified in coordination with the BA prepared for the ESA section 7 consultation.	Sea turtle density estimates have been revised consistent with updated information presented in the NMFS Section 7 consultation.

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BOEM-2022-0045-0100	190	Global comment: The section is missing IPFs and subsequent analysis that should be considered for sea turtles (i.e. habitat disturbance, cable laying, pollutants/discharges, lighting, EMF, surveys/monitoring). The ESA Info Needs document and prior EISs should be consulted for guidance on the appropriate IPFs to be analyzed.	IPFs having negligible and minor effects are discussed in EIS Appendix E.
BOEM-2022-0045-0100	191	The use of other environmental review documents (e.g. BOEM 2021a, Denes 2021) to describe project activities and justify impacts for other projects is not appropriate. This section uses other EISs and other associated documents prepared specifically for other projects as evidence that species will not be affected without any context or rationale. Citations should be reviewed throughout this section to ensure that they provide information that supports the conclusion being made. The rationale/analysis should be carried out in this document, citing primary literature as needed.	Primary references have been reevaluated for proper incorporation by reference, with additional supporting rationale and context being added as appropriate. However, information in certain references (e.g., reference values for underwater noise generated by construction vessels presented in Denes et al. 2021) are not project-specific and are directly applicable.
BOEM-2022-0045-0100	192	UXOs are missing from the Noise IPF; this should be added to the FEIS.	UXO information has been incorporated.
BOEM-2022-0045-0100	193	Sea turtles nest in areas where potential cable routes come ashore and some onshore activities related to cable laying could have impacts that may affect the marine environment/habitat. Consider revising this section which currently states no impacts from onshore activities will occur.	There is no suitable sea turtle nesting habitat in the RWEC corridor in general or the sea-to-shore transition site in particular. We have considered potential impacts from onshore construction and have determined that no measurable effects on marine or shoreline habitats would occur.
BOEM-2022-0045-0100	194	Mitigation and monitoring measures are only briefly referenced with no analysis of their effectiveness. Additionally, measures that are mentioned are very sparse (only a few measures listed in Appendix F with little to no specific details) and there is not adequate information provided to understand what the measures would include. Given the reliance on mitigation measures as part of the analysis, the lack of details regarding the actual measures, how they will be implemented, and their effectiveness is problematic and does not allow for a complete analysis. This should be addressed in the FEIS.	The analysis incorporates environmental protection measures (EPMs) detailed in Appendix F, Table F-1 as part of the proposed project. Additional mitigation measures that could be required by BOEM or by cooperating agencies under other statutes are detailed in Appendix F, Table F-2 and Table F-3. The latter details specific criteria required to ensure the effectiveness of proposed EPMs. Mitigation measures have been updated to reflect new information and recommendations received subsequent to publication of the DEIS.
BOEM-2022-0045-0100	195	Global comment: Analyses overall are brief; the lack of detail on relevant project information limits the ability for a reader to understand the relevant project activities and impacts associated with them. Additionally, the impact definitions used in the analysis make it difficult to understand what the actual impact on the species/taxa will be. It is unclear how BOEM determines that impacts will affect the viability of sea turtle populations given the ESA status of some species.	Thank you for your comment. Table 3.3-2. Definitions of Potential Adverse Impact Levels discusses the biological criteria for the sea turtle analyses. Individual impacts are discussed as appropriate and observe all species (population or individual) as a whole. Sea turtles are generally solitary animals. The Endangered Species Act of 1973 (ESA, 16 U.S.C. §§ 1531 et seq.), as amended, establishes a national policy designed to protect and conserve threatened and endangered species and the ecosystems upon which they depend. Section 7(a) (2) of the ESA requires each Federal agency to ensure that any action that they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the adverse modification of designated critical habitat. With respect to the sea turtle species, BOEM consults with respected service agencies (e.g., FWS and NMFS) on the applicable proposed future actions.
BOEM-2022-0045-0100	196	Please add citations for all the thresholds listed in table 3.19-3. Additionally, clarify in the FEIS the ranges of the various threshold distances and any considerations for those distance ranges.	Citations and clarification of ranges has been added.
BOEM-2022-0045-0100	197	The characterization of nighttime pile driving is not consistent with the BA prepared for ESA section 7 consultation. Nighttime pile driving is being proposed by the developer. This is a critical omission and the effectiveness of mitigation measures at night needs to be carefully considered.	This comment has been addressed to be consistent with the BA.
BOEM-2022-0045-0100	198	The text states that "individuals could become habituated to repeated exposures over time and ignore a stimulus that was not accompanied by an overt threat (Hazel et al. 2007)," this suggests that sea turtles may not move away from elevated noise levels (as assumed above) and thus be at risk of exposure to injurious levels of noise. Suggest revising the text for clarity about habituation.	Comment noted. The text was revised to be consistent with the analysis in the BA that more appropriately covers potential displacement due to noise, rather than speculation about habituation to pile driving noise.
BOEM-2022-0045-0100	199	Columns in Table 3.19-4 are split for UXO detonations for PTS, please clarify in the table what the two fields are.	Comment noted. Table 3.19-4 fields are clarified.
BOEM-2022-0045-0100	200	The consideration of the effects of the presence of structures on oceanographic conditions is improved from the pDEIS but only considers impacts to productivity/stratification. A wind farm/regional analysis is also needed. This section should consider the range of other potential oceanographic impacts, how prey aggregate, how different sea turtles forage, and how the presence of structures	The hydrodynamic modeling analysis (Johnson et al. 2021) supporting the description of oceanographic impacts presented in the DEIS considers full regional buildout of the RI/MA and MA WEAs. BOEM evaluated and

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		may/may not impact their ability to forage efficiently, both in the pelagic zone and near the seafloor. It should also be noted that presently there is no way to mitigate potential oceanographic/atmospheric impacts. Thus this section should thoroughly explain both project oceanographic and atmospheric impacts and subsequent ecosystem impacts.	incorporate the recommended analysis components, as appropriate, based on what can be supported by available science. Text was revised to clarify detail about potential downfield effects of wind farms on oceanographic conditions.
BOEM-2022-0045-0100	201	Based on the information presented, we do not agree with the determination that the potential for vessel strikes on sea turtles is negligible adverse. Project vessel traffic will overlap with sea turtles and it is unclear how mitigation measures will reduce the impact to negligible.	Thank you for your comment. BOEM evaluated this impact determination and has revised the finding to minor, consistent with your recommendation

Visual Resources

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BOEM-2022-0045-0109	1	I am a firm believer in renewable energy, but I am extremely concerned about the impact the wind farm will have on the future of Rhode Island. The digital images seemed designed to obscure the impact of the farm and to mislead the residents. This fraudulent misrepresentation makes the entire enterprise suspect. Rhode Island depends on the vitality of its coastal shoreline. The proximity of the windmills to the shoreline and the visibility of the windmills from almost every vantage point will forever mar this asset. Why not build the farm farther offshore, where the impact will be less? The short comment period, the few and rushed town meetings, and the misleading digital representation all suggest that residents should be suspicious that the impact of this farm has not been properly communicated. I firmly oppose this plan as currently proposed and strongly suggest that the residents in coastal towns have more time to judiciously consider the impact and that the companies involved provide more transparent and accurate renditions of the visual, economic, and environmental impact. The shortsighted and rushed nature of this venture could negatively impact Rhode Island for generations	Photorealistic visual simulations have been developed for the project from predetermined viewing locations (Key Observation Points) and are based on current industry practices and technologies. Additional visual simulations with higher resolution can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind
BOEM-2022-0045-0046	1	I am an Aquinnah resident and while I am 1) a proponent of wind energy and 2) am a marine conservationist (former NOAA employee) by profession, I am VERY concerned about the visual impacts of our entire view shed which very important to the culture and economy of this small town.	Thank you for your comment. Cultural and viewshed impacts to the Town of Aquinnah were evaluated in Sections 3.10 and 3.20 of the EIS, respectively. The Town of Aquinnah is also a consulting party on this Project under Section 106 of the National Historic Preservation Act, as described in Appendix K.
BOEM-2022-0045-0099	2	The appearance of over 100 WGTs just 12 miles south-southwest of or vantage point would significantly alter that experience not only for our many visitors but our residents that regularly “go up to the Head” to catch a beautiful sunset yearround. We can only imagine what the total cumulative impact the 100 plus Revolution Wind and Southfork Wind turbines will have being so close to our shores. We had a preview of what to expect in the visual simulation from Cuttyhunk Island that was presented in the project overview, and it was alarming. The Gay Head Light and Cliffs are even closer and a good 75-100 feet higher in elevation. We would like to see a simulation from that vantage point, atop the lighthouse and the overlook represented most especially at sunset when the turbines will be backlit and silhouetted. This is one of the few places on the East Coast from which you can view spectacular sunsets over the Atlantic Ocean, waiting to see the “ green flash” on the horizon as the sun disappears. That experience will be greatly compromised and obscured by the interceding structures.	Due to the proximity of Gay Head Lighthouse (KOP MV09) to Aquinnah Overlook (KOP MV07); sunset and nighttime impacts at Gay Head Lighthouse (KOP MV09) are anticipated to be similar to impacts at Aquinnah Overlook (KOP MV07) which are anticipated to be Major for both sunset and nighttime scenarios due to the elevated viewing position and field of view across the horizon. During the site visit to complete daytime photography, it was clarified that the lighthouse platform is not open during sunset hours. The Gay Head Lighthouse website currently posts 10 am to 4 pm for the 2022 season.
BOEM-2022-0045-0122	2	A. Photo Simulations The most valuable exhibits to laymen for understanding the visual impact of the proposed project are photo simulations. 1. The BOEM photo simulations are hypothetical projects and are not simulations of the proposed project. BOEM explains this and provides the parameters that went into the simulations. However, without photo simulations of the actual proposed project the public is forced to use the hypothetical projects thus giving a misleading view of the RWF: a. The height of the proposed WFGs is different than the WFGs used in the hypothetical WFGs. 5 Footnote 5: BOEM’s Visualization Study for the Massachusetts and Rhode Island Wind Energy Areas states that the visual simulations online modeled turbines are 510-575 feet tall rather than the 875 feet tall proposed RWF turbines. The Visual Resources section of Appendix C, Incomplete or Unavailable Information, states that “There is no incomplete or unavailable information related to the analysis of impacts on visual resources.” C-12. Not providing visual simulations using the WFGs at 875 feet rather than the 510-575 feet and not including the flashing amber USCG lights makes the visual analysis incomplete and is misleading for the public even with the disclaimers.	The project design envelope was analyzed as a worst case scenario and photorealistic simulations were developed based on the maximum turbine height of 886 feet. Additional visual simulations with higher resolution can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind
BOEM-2022-0045-0122	3	b. The nighttime photo simulation does not identify whether the red lights are flashing or fixed, and whether they are the aircraft warning lights or the nacelle red lights.	The project Construction and Operations Plan (COP) describes warning light types as defined and required under USCG and FAA regulations. Figures illustrating the location and type of lighting to be used in the RWF (Figure 2.1-4 Wind Turbine Generator Lighting Scheme and Figure 2.1-6 Offshore Substation Lighting Scheme) have been included in Chapter 2 of the EIS.
BOEM-2022-0045-0122	4	c. The nighttime photo simulation does not appear to include the flashing amber USCG lights, which according to the DEIS will have the most adverse impact the Viewshed. Section 3.1.5 of the Cumulative Historic Resources Visual Effects Analysis – Revolution Wind Farm and Revolution Wind Export Cable Project, pages 47-48, emphasizes that the greatest visual impact would be caused by the flashing amber USCG warnings lights around the WTG foundations and that the “mass” number of amber lights would diminish the sense of openness. Nighttime Lighting. 3.1.5.1. At the October 4, 2022 Public Hearing, BOEM representatives seem to confirm that the simulated photos do not show the flashing amber USCG lights that the DEIS states will have the greatest visual impact on Aquinnah. Similarly,	The project Construction and Operations Plan (COP) describes warning light types as defined and required under USCG and FAA regulations. Additionally, Figures illustrating the location and type of lighting to be used in the RWF (Figure 2.1-4 Wind Turbine Generator Lighting Scheme and Figure 2.1-6 Offshore Substation Lighting Scheme) have been included in Chapter 2 of the EIS.

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		these flashing amber lights are not shown in any video simulation for Aquinnah on the BOEM Visualization Study For the Massachusetts and Rhode Island Wind Energy Areas. Omitting the lights that will have the greatest impact on Aquinnah does not provide a fair and accurate analysis of the environmental impact of the RWF. This misleads anyone viewing these simulation photos and misrepresents the adverse effect on Aquinnah. If the amber lights are included, please explain where and how they can be seen.	Multiple factors can contribute to navigation lights being less visible in simulations. The primary reason that navigation lights would not be visible in a visual simulation is due to the relatively low placement of navigation lights (approximately 75 feet above mean sea level on OSS and 70 feet on WTGs) compared to FAA lighting (approximately 262 feet above mean sea level on OSS and up to 535 feet on WTGs) and the screening effect of curvature of the earth which effectively eliminates visibility of the navigation lights from many KOPs. Each of the photo simulations presented in the COP includes a graphic detailing the theoretical visibility of the deck (navigation lights), mid-tower (FAA lights), and nacelle (FAA lights). Additionally, navigation lights are significantly more diffuse and dimmer than FAA lighting. Visual simulations with higher resolution can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind. It is recommended that viewers use a darkened room when viewing nighttime simulations.
BOEM-2022-0045-0046	5	Our town will be the most negatively impacted from this wind farm from the standpoint of view. This is closer to us than any other community and we are not even receiving energy benefits from this development. I feel that minimizing the impacts on our view should be prioritized.	Thank you for your comment. BOEM has considered and evaluated alternatives to minimize impacts to the Town of Aquinnah and adjacent areas on Martha's Vineyard. BOEM continues to consult under Section 106 of the NHPA to evaluate impacts and develop mitigation measures to minimize or offset potential impacts. More information on the Section 106 consultation as it relates to the identification of action alternatives for consideration in the EIS can be found in Appendix K.
BOEM-2022-0045-0099	5	We also need to have an accurate visual simulation of the views at sunset to present to the townspeople in order further fully assess the impact to our community that this project along with other proposed wind farms. These offshore endeavors will certainly have a direct adverse effect on our lives.	Due to the proximity of Gay Head Lighthouse (KOP MV09) to Aquinnah Overlook (KOP MV07); sunset and nighttime impacts at Gay Head Lighthouse (KOP MV09) are anticipated to be similar to impacts at Aquinnah Overlook (KOP MV07) which are anticipated to be Major for both sunset and nighttime scenarios due to the elevated viewing position and field of view across the horizon. During the site visit to complete daytime photography, it was clarified that the lighthouse platform is not open during sunset hours. The Gay Head Lighthouse website currently posts 10 am to 4 pm for the 2022 season.
BOEM-2022-0045-0116	5	And my third question, when I was looking back there, it says potential that we will not see any towers from our cliffs. I didn't like the word "potential".	Thank you for the comment.
BOEM-2022-0045-0122	5	d. The OSSs do not appear to be shown in some simulation photos. Based on the DEIS and talking to BOEM representatives the two OSSs may produce a significant amount of light and therefore need to be included to provide an accurate representation. i. At the October 4, 2022, Public Hearing, when questioned about the amount of people on board the two OSSs, BOEM personnel stated that the OSS would be unmanned. If correct, what lighting would be required for the OSSs and what lighting would be allowed?	BOEM has reviewed nighttime simulations where the OSSs would be visible and has determined that the OSSs have been simulated appropriately based on lighting diagrams. The project Construction and Operations Plan (COP) describes warning light types as required under USCG and FAA regulations. Multiple factors can contribute to navigation lights being less visible in simulations. The primary reason that navigation lights would not be visible in a visual simulation is due to the relatively low placement of navigation lights (approximately 75 feet above mean sea level on OSS and 70 feet on WTGs) compared to FAA lighting (approximately 262 feet above mean sea level on OSS and up to 535 feet on WTGs) and the screening effect of curvature of the earth which effectively eliminates visibility of the navigation lights from many

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			KOPs. Each of the photo simulations presented in the COP includes a graphic detailing the theoretical visibility of the deck (navigation lights), mid-tower (FAA lights), and nacelle (FAA lights). Additionally, navigation lights are significantly more diffuse and dimmer than FAA lighting. Figures illustrating the location and type of lighting to be used in the RWF (Figure 2.1-4 Wind Turbine Generator Lighting Scheme and Figure 2.1-6 Offshore Substation Lighting Scheme) have been included in Chapter 2 of the EIS. Additional visual simulations with higher resolution can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind It is recommended that viewers use a darkened room when viewing nighttime simulations.
BOEM-2022-0045-0123	5	Nighttime Light Impacts Ideally, no nighttime construction would be allowed to reduce what are likely to be very large visual nighttime impacts should multiple projects be under construction at the same time. Understanding this is highly unlikely, as wind speed dictates acceptably safe construction periods and these periods often occur at night. Daytime only construction would significantly delay project construction. We ask BOEM to analyze the cumulative nighttime construction lighting impacts, including the duration of such impacts in days or months and the likely seasons of construction, and identify possible measures to reduce this impact. Information gathered at the Site Assessment Plan (SAP) stage on wind speeds and wave size at various times of the day and night would be useful in this determination.	BOEM has evaluated construction nighttime lighting to visual resources in the EIS. See Sections 3.11.2.2, 3.18.2.2, and Section 3.20 Table 3.20-1 of the EIS. The Proposed Action would require nighttime lighting for construction vessels traveling and working within the Lease Area, as well as the addition of warning lighting systems at each WTG and OSS during an 8-month construction period. This lighting would be short-term and localized to only the areas actively being constructed and associated vessel traffic to and from the site. There is not expected to be multiple offshore wind projects in the vicinity under construction at the same time.
BOEM-2022-0045-0122	7	2. This mass of flashing amber lights also do not appear to be shown in the simulations prepared by RWF. App_U3 Visual Impact Assessment ("RWF VIA") provides simulation photos of views of the ocean at night from Aquinnah both before and after installation of the WTGs. See Appendix C: Sheet 101 of 153 et al. (Page 330 of 575). The photos accurately show that there are no lights currently viewed from Aquinnah and the natural Viewshed still exists after thousands of years. The RWF VIA states on page 53 that due to the effects of the curvature of the earth and refraction, the USCG navigation warning lights were only considered in views that had a direct line of sight to the deck at the WTG base. Despite that 50 WTGs are within 12 miles of Aquinnah the RWF simulation photos do not seem to show the mass of amber flashing lights that Section 3.1.5 states will create the greatest adverse effects.	The project Construction and Operations Plan (COP) describes warning light types as required under USCG and FAA regulations. Figures illustrating the location and type of lighting to be used in the RWF (Figure 2.1-4 Wind Turbine Generator Lighting Scheme and Figure 2.1-6 Offshore Substation Lighting Scheme) have been included in Chapter 2 of the EIS. Multiple factors can contribute to navigation lights being less visible in simulations. The primary reason that navigation lights would not be visible in a visual simulation is due to the relatively low placement of navigation lights (approximately 75 feet above mean sea level on OSS and 70 feet on WTGs) compared to FAA lighting (approximately 262 feet above mean sea level on OSS and up to 535 feet on WTGs) and the screening effect of curvature of the earth which effectively eliminates visibility of the navigation lights from many KOPs. Each of the photo simulations presented in the COP includes a graphic detailing the theoretical visibility of the deck (navigation lights), mid-tower (FAA lights), and nacelle (FAA lights). Additionally, navigation lights are significantly more diffuse and dimmer than FAA lighting. Additional visual simulations with higher resolution can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind It is recommended that viewers use a darkened room when viewing nighttime simulations and make sure the video is being displayed at HD or UHD resolution which is a selectable option in the video player.

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BOEM-2022-0045-0122	8	3. The simulated sunset provided with Appendix K in Figure K-13 does not provide the bearing, the date of the photo simulation, or other data provided for BOEM's other simulated photos. BOEM personnel stated that the simulated sunset was for December, but it would be helpful to include the information provided on or with the photo simulation as with the other BOEM simulations. Additionally, photo simulations for different seasons would be helpful.	Additional visual simulations with higher resolution and additional information can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind
BOEM-2022-0045-0122	9	B. Effect of Alternative E. Table G-46, Visual Impact Assessment Impacts Matrix – Alternative E (Viewshed Alternative), states that the Alternatives would only increase the distance to the RWF by less than one mile, not enough to mitigate the complete change in the character and environment of Aquinnah caused by the RWF and associated lighting. However, based on the 1 nm distance between WTGs, and the scale on the layout options, it appears that removing the WFGs as suggested by the Alternatives would increase the distance from Aquinnah greater than the mile stated in the comparison charts. Can you verify the distance the RWF would be from Aquinnah based on the Alternative E changes and the bearings to the WFGs?	Based on GIS calculations, WTGs that would remain to the far left of the field of view as part of Alternatives E1 and E2 would be the closest to Martha's Vineyard as calculated and are reflected as such in Table G-46. Views to the central and right field of view would have decreased visibility of WTGs associated with Alternative E1 vs E2, Alternative E2 is associated with turbine removal and distancing from KOPs in geographic relationship to that alternative. Additional EIS text has been added associated with Alternatives E1 and E2 to further describe the relationship of the removed turbines to KOPs MV07 and RI08 as an example noting that Table G-46 provides a worst-case scenario.
BOEM-2022-0045-0122	10	C. Potentially Misleading Generalizations. a. The RWF Visual Impact Assessment either is confusing or misleading when it addresses the view from Aquinnah based on this proximity. i. Page 12 of The RWF Visual Impact Assessment states, in part: 1. . . . . It is important to note that all Foreground-Middle Ground and Background views of the proposed Project would only be available to those traveling on the open ocean in commercial vessels, passenger boats, or pleasure craft. Consistent with BLM guidance, distance zones for this VIA are described as follows: Background: 5 to 15 Miles . . . . ii. This statement implies that the RWF WTGs will not be within 15 miles of Aquinnah and will not be viewed from Aquinnah as "Background." This is not accurate because, according to BOEM, approximately 50 of RWF's WTGs are within 12 nm of Aquinnah and thus within the 5 to 15 miles defined as being in the Background. This also does not account for the elevation of the Cliffs at Aquinnah, the prominent destination from which the WTGs will be viewed. Thus, the RWF Visual Impact Assessment does not seem to accurately describe the view of the WTGs from Aquinnah, and therefore the adverse effect.	Thank you for your comment and BOEM agrees with your observation. The lessee's Construction and Operations Plan, Visual Impact Assessment will be revised accordingly.
BOEM-2022-0045-0123	10	BOEM discloses that the visual impacts would have a major cumulative impact. For instance, in the DEIS in Table G-48 (Pg. G-193) it appears that 2 out of 3 Key Observation Points (KOPs) that were taken at night would have a major cumulative impact. Table E4-1 (DEIS, pg. E4-3) shows that at maximum case scenario for cumulative impacts including the proposed action would result in over 1,000 WTGs that would impact visual resources and recreation-tourism. This is stated in an appendix and nowhere in the body of the DEIS or in the appendices is there discussion of how to reduce those adverse impacts on cultural (including NHLs), recreational and visual resources. The developer's proposals for minimizing or mitigating impacts appears to be in the COP - Appendix BB, which we don't have access to. NPS asks BOEM to include a discussion of how to avoid, minimize and mitigate adverse impacts in the DEIS. Further, the determination of appropriate mitigation measures can not be finalized until the identification of and effects to all historic properties has been completed, which as we've noted elsewhere in this letter, BOEM has said won't be completed until after the ROD, and before construction.	The comment appears to conflate the analysis of historic/cultural resources with non-historic/non-cultural resources. The EIS addresses potential visual impacts to historic/cultural resources in Section 3.10 Cultural Resources Viewshed Resources. Potential visual impacts to all other non-historic and non-cultural resources are addressed in Section 3.20 Visual Resources. Appendix G Tables G-40 through G-53 are an extension of the Section 3.20 Visual Resources analysis and address non-historic and non-cultural resources impacts. Each EIS resource section includes a Mitigation subsection discussing proposed mitigation measures. See Section 3.20 Visual Resources, Table 3.20-1 for information on nighttime construction lighting impacts to non-historic and non-cultural visual resources. Refer to Section 3.18 Recreation and Tourism for discussion of impacts which were determined to be minor. Revolution Wind–committed measures, also known as Environmental Protection Measures (EPMs), are identified in COP Appendix BB (Cultural Resources Avoidance, Minimization, and Mitigation Measures), listed in EIS Appendix F, Table F-1, and are included in the EIS analysis as a component of the Proposed Action. Mitigation measures for cultural resources are addressed in EIS Appendix F, Table F-2 and Table F-3, and are drafted in the memorandum of agreement (MOA), and its historic property treatment plans

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			(HPTPs) attached in EIS Appendix J which was published in the Federal Register for public review and provided to Consulting Parties for review through the Section 106 consultation process. The MOA and its requirements would be set by BOEM under NHPA Section 106 as a condition of BOEM's signing the ROD. Under the MOA, adverse effects from the Project to NRHP-eligible cultural resources, including NHLs and TCPs, would be avoided, minimized, or mitigated in accordance with the NHPA Section 106 regulations (36 CFR 800) and in compliance with Section 110(f).
BOEM-2022-0045-0122	11	b. The DEIS makes generalizations about the adverse impact of the RWF that do not apply to Aquinnah. Therefore, when evaluating the Alternatives, BOEM should make sure to use Aquinnah specific information rather than rely on the generalized characterization. For example, i. "Lighting impacts would be most pronounced for views that can be currently characterized as undeveloped where lighting from human infrastructure and activities is not dominant or even exists. However, less than 5% of the lighted WTG positions envisioned in the GAA would be within 15 miles from coastal locations. Therefore, visual impacts on recreation and tourism would be short term during construction and long term during O&M with negligible to moderate adverse impacts, based on the observed distance and individual responses by recreationists and visitors to changes in the viewshed." Page 3.18-8. 1. Aquinnah takes light pollution very seriously and light pollution is kept to a minimum. There is often not a single light on Aquinnah other than the lighthouse that can be seen from some parts of the Aquinnah Cliffs area. The only lights are from the mainland or from the few fishing vessels offshore. With minimal residences, slow development, and very few commercial establishments, light pollution is currently easily contained. Therefore, the proposed mass of flashing amber USCG lights and other WFG lighting will be a major impact and not a negligible or moderate adverse impact.	Nighttime visual impacts associated with KOP MV07 - Aquinnah Overlook range from Major to Moderate for the proposed action and action alternatives as a result of the relationship of visible light sources and massing of wind turbines along the nighttime horizon considering the potential view value and /or potential sensitivity to visual change. Similarly, the cumulative impact associated with nighttime lighting in relation to KOP MV07 would be Major, with the closest wind turbine(s) approximately 13.7 miles away. However, the impact to recreation and tourism may or may not match the impact levels to the visual resource. Impact to visual and scenic resources is one factor considered in addition to other factors when evaluating impacts to recreation, tourism, and historic resources and properties. As discussed in Section 3.18.1, studies and surveys that have evaluated the impacts of offshore wind facilities on tourism found that established offshore wind facilities in Europe did not result in decreased tourist numbers, tourist experience, or tourist revenue, and that Block Island's WTGs provide excellent sites for fishing and shellfishing (Smythe et al. 2018). Research also suggests that at a distance of 15 miles, few beach visitors (only 6%) would select a different beach based on the presence of offshore wind turbines (Parsons and Firestone 2018). The basis of the Parsons and Firestone 2018 study was a hypothetical project depicted in all photomontages with 100 turbines. Each turbine was 6 MW and was 574 feet high (blade at apex) with a rotor diameter of 492 feet. The project design envelope analyzed for the Revolution Wind Project allows for installing wind turbines that may reach 873 feet to the tip of blade (52 percent taller those studied by Parsons and Firestone) with a rotor diameter of 538 feet (9 percent larger rotor diameter than the Parsons and Firestone study). While it is predictable that the percent of social acceptance or change in choice may shift, the shift would not be proportional to the difference in the size and scale of the wind turbines in the 2018 study and those analyzed in the Revolution Wind DEIS. A 2019 survey of coastal recreation users in New Hampshire (Ferguson et al. 2020) also found that most users (77%) supported offshore wind development along the New Hampshire coast, 74% anticipated that offshore wind development would have a neutral to beneficial impact on their recreational activities, and 26% anticipated that offshore wind development would have an adverse impact (Ferguson et al. 2020). The EIS acknowledges that while some visitors to south-facing coastal or elevated locations could alter their behavior, this changed behavior is unlikely to meaningfully affect the recreation and tourism industry as a whole. The project Construction and Operations Plan (COP) describes warning light types as required under USCG and FAA regulations. Figures illustrating the location and type of lighting to be used in the RWF (Figure 2.1-4 Wind Turbine

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			Generator Lighting Scheme and Figure 2.1-6 Offshore Substation Lighting Scheme) have been included in Chapter 2 of the EIS.
BOEM-2022-0045-0123	11	Visual Resource Impacts It appears the Visual Impact Assessment (VIA) was completed before the adoption of the Seascape, Landscape, and Visual Impacts Assessment (SLVIA) model was adopted by BOEM. The DEIS and Appendix G have attempted a crosswalk from the VIA method to SLVIA. Table G-40a in Appendix G is a good addition to help explain the impacts and relationship of the VIA/SLVIA results. It would be helpful to further explain how a particular impact level was derived. Is it a combination of the SLVIA magnitude and SLVIA sensitivity? How, or at what point does the level of impact cross the threshold from one level of impact to the next? NPS requests that this is more clearly explained.	Methodology for Visual Resources impact determinations are provided in Appendix G of the EIS. Appendix G, Page G-154, describes the visual resources components analyzed, their relationship and associated impact definitions as referenced in the SILVA methodology found in Section 7.5 Evaluation of Impacts, and overall impact determinations as defined in *Table 3.3-2 Definitions of Potential Adverse Impact Levels*
BOEM-2022-0045-0122	12	ii. Where in the DEIS are the specific conditions of Aquinnah discussed?	Please refer to Appendix G and visual impact tables associated with each project alternative. Additional visual simulations with higher resolution and additional information can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind
BOEM-2022-0045-0123	12	The EIS section would also benefit from a summary – either a table or grouping of KOPs by similar impacts – that describes how the various user groups are affected (and therefore the resulting impact levels) so that the reader is not always having to reference the Appendix. Simply stating that impacts would range from negligible to major is not as informative as it could be. One approach could be to summarize the impacts by viewer group and KOP - such as "residents would be subject to moderate impacts at KOPs X,X,X,X....primarily due to the (types of impacts)."	A summary table of overall impact determination by KOP and action alternative has been developed and included in Appendix G for ease of comparison between alternatives.
BOEM-2022-0045-0122	13	iii. Table E2-11, Summary of Activities and the Associated Impact-Producing Factors for Visual Resources, states, in part, that "Light from onshore structures is expected to gradually increase in line with human population growth along the coast. This increase is expected to be widespread and permanent near the coast." Page E1-73-74. As described above, this description of widespread growth may apply generally to the four-state area but does not apply to Aquinnah.	Population growth and lighting related to Aquinnah may be incremental and possibly slower than other geographic areas, but the impact-producing factor can still be expected to gradually increase in line with population growth based on local ordinances. Aquinnah by-laws include directing and shielding light so that there is no direct glare from residential lights outside of the property line, and also require lighting on taller buildings to not be placed higher than 1 story. There is a restriction for the number of new residential building permits per year (no more than 6 per year). This restriction of building permits, as written, is only temporary - 3 years total. By-laws discourage the use of glass walls in buildings to minimize interior light impact on night skies. These measures combined would slow the amount of light producing impacts from incremental growth, but not stop it.
BOEM-2022-0045-0122	15	a. On page 3.18-8, it states that "up to 38 WTGs (fewer than 5%) would be within 15 miles of shore (see Section 3.20 for details.)". This seems to contradict other statements that 50 WTGs will be within 12 nm of Aquinnah.	Distances provided in the different EIS resource areas may deviate based on observation point. For example, the Cultural Resources section relies on distances considered from historic properties. Whereas the Visual Resources section may rely upon other Key Observation Points (KOPs) which could be a general location and not a specific point. Also, nautical miles and statute miles are different lengths (1 nm = 1.15 m).
BOEM-2022-0045-0122	16	b. Consistent use of nautical miles. It appears that statutory miles are used in some places and nautical miles in others. If so, using a consistent measurement convention would be less confusing.	The BOEM style guide for this EIS includes use of statute miles only for terrestrial measurements (conversions not needed) and use of nautical miles only for marine measurements (conversions not needed when discussing a measurement previously defined such as the 1 x 1-nm grid).
BOEM-2022-0045-0086	55	Revolution Wind reviewed Appendix G – Environmental and Physical Settings and Supplemental Information and had several comments regarding visual resource characterizations. Table G-40a mischaracterizes the views from each key observation point (KOP) by labeling the available ocean views as "Horizontal Field of View Occupied". The term "occupied" should reference the field of view of in which the proposed offshore wind infrastructure occurs, which is a smaller arc than indicated in the Table G-40a. Revolution Wind respectfully suggests that BOEM change the column title to more accurately reflect the data presented or revise the data to accurately reflect the portion of the available ocean views from each KOP that could contain the Project.	BOEM reviewed and updated the approximate field of view occupied information based on KOP perspective to project.

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BOEM-2022-0045-0086	56	Revolution Wind notes that Table G-40a presents a visibility threshold level (VTL) rating for the AI01 - Nighttime (Brenton State Park) that is inconsistent with the Visual Impact Assessment (VIA) panel ratings. We believe the VIA panel rating of VTL 4 accurately reflects the visual change the Project would introduce to this KOP and recommend that BOEM revise Table G-40a, accordingly.	BOEM reviewed nighttime simulations and re-evaluated the influence of nighttime lighting as viewed from AI01 - Nighttime (Brenton State Park) and BI04 Nighttime Southeast Lighthouse, Newshoreham, in comparison to current VTLs and determined that a VTL 5 rather than VTL 4 is more appropriate due to the lighting substantially contributing to drawing viewer attention across the ocean horizon.
BOEM-2022-0045-0086	57	Revolution Wind does not agree with the DEIS conclusions (Table G-40b, Page G-160) regarding the visual impacts to nighttime views from the Southeast Lighthouse (BI04). The DEIS appropriately assesses the daytime visual impacts to Southeast Lighthouse as “moderate”, but nighttime impacts as “major”. The nighttime impact rating does not appear to take into account the efficacy of the proposed ADLS in substantially reducing the period of Federal Aviation Administration (FAA) light source illumination and should be revised. As the DEIS, itself, notes: “ADLS use would substantially reduce the visual impact from Project lighting and make lighting visibility much more intermittent but would not eliminate the impact fully” (Page 3.10-48). Likewise, as noted in Table 3.11-7 for Alternative B – Proposed Action, the “Light” Impact- Producing Factor may cause negligible to moderate impacts to a range of resources. Revolution Wind believes a “moderate” impact rating for nighttime views from Southeast Lighthouse is more appropriate and well-supported by the totality of analyses completed by Revolution Wind to support the DEIS.	BOEM has reviewed and has added clarifying text and/or table notes to disclose that nighttime impacts associated with FAA warning lights would be as evaluated, but impacts would be reduced to Negligible as described in Table 3.3-2.
BOEM-2022-0045-0086	58	Revolution Wind believes the DEIS overstates the visual impacts of the Proposed Action (Alternative B) to Nantucket Island (Table G-40b, KOP NI10). Consistent with the VIA prepared by Revolution Wind, the table correctly notes that the “WTGs are barely visible” from this location. The Seascape/Landscape and Visual Impact Assessment (SLVIA) Overall Impact rating should be revised to “Negligible” in line with the location of the WTGs near the limits of perceptibility when viewed from Nantucket.	BOEM reviewed initial impact findings associated with KOP NI10 for the Proposed Action (Alternative B) and revised the overall impact determination to negligible based on the angle of view, field-of-view occupied, the number of wind turbines visible in addition to how much of the wind turbine is visible.
BOEM-2022-0045-0086	94	Appendix G, Page G-188: For Brenton Point State Park (Night), recommend revising "When viewed at night, single aviation warning lights on nacelle..." to "When viewed at night, dual aviation warning lights on nacelle..." The WTGs are greater than 499' AGL, thus necessitating two aviation warning lights on each nacelle.	Table text has been revised to reflect nacelle lighting and the use of two obstruction lights not one, per FAA Advisory Circular 70/7460-1M (11/16/2020). Figures illustrating the location and type of lighting to be used in the RWF (Figure 2.1-4 Wind Turbine Generator Lighting Scheme and Figure 2.1-6 Offshore Substation Lighting Scheme) have been included in Chapter 2 of the EIS.

Water Resources

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0102	37	MWT is concerned with cross contamination of sedimentation impacting sensitive resources areas utilized by it's tribal members.	BOEM acknowledges your concern. As described in Section 3.21.2.3.1, disturbances to the seafloor would temporarily increase suspended sediment and turbidity levels in and immediately adjacent to the anchorage, disposal, or cable placement area. Sediment modeling completed for the Proposed Action indicates that in most locations the total suspended solids plumes are limited to the bottom 10 feet of the water column and are temporary at any given location. Suspended sediments would settle within hours or days, including up to 6.7 hours in the RWF IAC, 61 hours in the RWEC-OCS, approximately 70 hours along the RWEC-RI, and 70 hours at the landing site where HDD would occur. The HDD drill itself may reach a depth of up to 66 feet between the onshore TJBs and the offshore exit pits, but the sediment displacement would be largely confined to the two 3-foot-diameter bore holes. EPMs in Table F-1 in Appendix F would avoid or minimize impacts on water quality, and Revolution Wind would comply with all permit and regulatory requirements related to water quality. Changes to water quality would be detectable but would not result in degradation of water quality that would exceed water quality standards. For this reason, BOEM expects that sedimentation would have localized short-term negligible impacts on terrestrial and marine cultural resources.

Wetlands and Non-Tidal Waters

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0105	1	Edits to text made by USACE	BOEM has incorporated these proposed edits into the FEIS.
BOEM-2022-0045-0105	2	Removed WOTUS column. The < 0.01 acre of freshwater wetlands associated with the OnSS footprint and the 0.10 acre freshwater wetland in ICF footprint, why is that not regulated by the Corps?	Clarified these resources require coordination with regulating agencies, including USACE and RI CRMC, prior to any construction activities to determine jurisdiction.

Wildlife (General)

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0086	88	Appendix E2, Page 3.8-1: "Native coastal fauna" is defined herein as terrestrial mammals, reptiles, amphibians, and terrestrial and intertidal invertebrates. Birds appear to be left out of the definition of coastal fauna. Please clarify if this is because birds are addressed under a separate section or should be included within the description of Native Coastal Fauna.	Thank you for the comment. Birds are addressed separately in Section 3.7 of the EIS.

Non-Substantive Comments

General Opposition

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0002	1	The cable recently proposed by Mayflower in the Sakonnet River through a very carefully orchestrated presentation is just one part of the overall Wind Turbine project, one which is designed to benefit only Massachusetts. And this is the same state that has blocked a badly needed natural gas pipeline to Rhode Island. As a citizen and resident of the Rhode Island I have been closely involved in a number of similar projects, such as Deepwater Block Island. My qualifications as they relate to the factual assertions I am making include: a career as a Naval Aviator with training in oceanography, meteorology, air and sea navigation, air traffic control, and aeronautical engineering, and a second career as CEO of 4 separate manufacturing companies, two of them subsidiaries of multi-national conglomerates. The ocean floor is where half of the planet's accumulated carbon is sequestered. Digging it up will release significant amounts of carbon into the atmosphere, which will combine with oxygen to become carbon dioxide, along with methane, which are factors in creating global warming, and will be harmful to the fisheries we depend on. There is a high likelihood of gearbox failures and fires on these wind turbines caused by salt spray on the blades throwing them out of balance. Typically they contain not only oil, but around 4400 pounds each of neodymium for the magnets. This is a highly toxic and potentially deadly material when burned, and Rhode Island residents will be down wind. How will they put these fires out? These turbines will also severely affect the accuracy of radars used for both air traffic control and defense. In addition, they will clutter the ocean in a way that will interfere with ship radars as well. The environmental risks are unwarranted. As one U.S. Supreme Court Justice noted in a recent case regarding eminent domain, "Transfers intended to confer benefits on particular, favored private entities, and with only incidental or pretextual public benefits are forbidden by the Public Use Clause." (Kelo v. City of New London, 2005.) The fact that wind power has been proven to have no net positive impact on reducing fossil fuel use or carbon emissions is a matter of public record in the U.S. and Europe. (See the ERCOT Bentek IV study done in Texas, attached.) It is intermittent, not on demand, and not only causes more fossil fuel use and carbon emissions as a result, but can never replace a single conventional plant. There is absolutely no justification for industrializing the ocean this way. Fishing, recreation, and the view shed will be impacted, with a negative affect on public enjoyment, the local economy, and coastal property values. Higher U.S. energy costs drive more manufacturing overseas where, in countries like China, they are building a new coal fired plant every week. China's GDP is less than the U.S. and Japan, yet they emit 5 times the carbon and other pollutants as the U.S. does. And much of this is manufacturing to supply countries like ours with products we used to make, far more cleanly, than they do. The only thing "green" about this project is the money the developers are making from taxpayer and ratepayer subsidies. What are Rhode Islanders getting from it? What is the U.S. getting? Benjamin Riggs, 8/20/2022	Thank you for your comment. Seafloor sediment disturbance was modeled in Appendix J of the COP and was evaluated in the EIS as an impact-producing factor associated with cable and foundation installation.
BOEM-2022-0045-0108	1	This is not only a bad idea, but a collsal waste of money when many better and more realitic options abound. You are fast tracking this project at the peril of the environment, the special habitat, and the local people who cherish where they live and want to preserve what they have worked so hard to enjoy. You do this in a panic without seriously considering the longterm ramifications. I am a former commerical fisherman and live along the shoreline that will have to look out and see these turbines reuin the pristene ocen view - fail, then rust, then rot and finally stand out there unused as the largest environmental catastrophy this region will ever see - a waste of money. We are all for reducing fossil fuel consumption, but to put moving parts of shore in the most exposed area in the northeast is foolish when solar energy is both more reliable and sustainable. This is too close, too large and must be given far more consideration before pushing forward. It is exaclty this kind of thing - rushed, not thought out and not fully investigated that is destroying the earth. Please stop and reconsider	Thank you for your comment.
BOEM-2022-0045-0107	1	Other states have Turbines, but not offshore Turbines. They don't want off shore Turbines precisely because everyone can see them and they value their coastline. Coastlines are a treasure. Every other state seems to realize that. Why does RI think 150 won't matter to their coastal resources? Every other state has said "NO." New York, Mass, Florida, Maine, etc., no one wants them to obstruct their ocean views, disrupt the wildlife, and diminish tourism and property values. No other New England state has offshore turbines.	Thank you for your comment.

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		The digital images I have seen seem to misrepresent and mislead. It seems like the company obscures the background, by making the foreground so large and clear. They do not include anything else in the background for the eye to use as a comparison to evaluate size, and the atmosphere seems particularly hazy, which can happen in LC, but is not always the case. The company released a 2000 page impact statement on September 2. They gave the public only 2 town meetings and 2 virtual meetings, all of them within a three week period (Sept. 29- Oct.11). Today, Oct. 17th is the last day to make a comment. I just feel like RI will regret this for the rest of our lives. No other state wants to ruin its treasured coastline and ocean views. The Turbines will have a negative impact on tourism, property values, wildlife, fishing, basically everything. Newer wind farms are inland. Amazon is planning a huge farm, but inland, where it won't ruin property values and the coastline. I personally came to RI because of the views. I don't think natural beauty is a bad thing to value. I believe in global warming and want renewable energy, I just don't think you need to ruin a state's entire shoreline to accomplish that. We will regret this and we will be the only state with this problem.	
BOEM-2022-0045-0093	1	Thank you for allowing individual submissions regarding this issue. I am a home owner in Little Compton and am proud of RI for its commitment to renewable energy, but dismayed by this project and the impact it will have on the future of RI. First, I think the process has been unnecessarily hurried. I do not understand why Rhode Island has to act so fast to implement a plan that will have such a long-term and potentially catastrophic impact. Right now, according to the U.S. energy information administration (https://www.eia.gov/state/analysis.php?sid=RI), Rhode Island consumes less energy per capita than ANY other state in the union. And, as of 2020, 12% of that energy was renewable. We do not need to act heedlessly. Second, the project as planned will destroy Rhode Islands' best and most treasured resource, the vitality and beauty of its coastline and coastal habitats. Boating, fishing, and beach-going, all tremendously important to RI, will be indescribably negatively impacted. The value of every coastline town will be grossly diminished. Tourism generates 13.7% of the state's jobs and contributes 1.3 billion dollars worth of tax revenues (2020 data). The wind farm promises to cut these figures dramatically. Eventually, the wind farm will erode the tax basis for the entire state. We do not have a good way to predict the impact of a wind farm of this size and proximity, because NO OTHER state has embraced such a drastic measure. No other New England state has offshore wind farms. None of the west coast states have opted for off shore wind farms. Why should the smallest state in the union embrace such a disproportionately huge and potentially destructive enterprise, and with such haste? The project, as planned, would provide CT with 43% of the generated power. CT is far wealthier than RI. They will gain almost half of the power without having to suffer from any of the adverse consequences. No other state in the union has offshore windmills except for Virginia (it houses 2 offshore windmills, approximately 30 miles, double the distance from the coast as the proposed RI windmills). RI already has twice as many as any other state (off the coast of Block Island, with a bad record of unanticipated hidden costs, safety hazards, and breakdowns (https://www.theday.com/local-columns/20210807/the-block-island-wind-farm-has-largely-shut-down/). The notion that RI should be the first and potentially ONLY state to accept over 100 offshore windmills seems quite risky. RI is by far poorer than the rest of New England, and has fewer residents to fight against this change. Why saddle the poorest, smallest state in the area with this burden? If RI accepts this, we will have ensured that we will remain the poorest state in the region for generations to come, and we will only have ourselves to blame. Property values and state revenues will all suffer. The wealthier communities, that were starting to see a renaissance, given the trend to work at home, will be halted in their tracks by this venture. Few people with resources will choose RI as a destination or a home, given the current project that will forever scar the coastline. We need renewable energy, but we do not need to ruin our natural resources to do so. Moreover, the digital simulations that attempt to visually represent the impact of the farm seem misleading. Neither the photo nor the video contains an island or a landmark in the distance to properly scale the windmills. These windmills (873 feet tall), just 15 miles off the coast, will tower almost six time higher than the highest point on Cuttyhunk (150 feet), an island at approximately the same distance from Little Compton as the proposed windmills. The potential misleading visual (and audio) representations cause deep concern that, if built, the Wind farm will dominate our landscape in an unexpected	Thank you for your comment. The action analyzed in BOEM's *Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf* was the establishment of the Marine Minerals Management Service Alternative Energy and Alternate Use Program on the Federal Outer Continental Shelf. Changes to BOEM's renewable energy program are outside of the scope of this environmental review and would be analyzed through a separate process. Revolution Wind submitted a COP for Lease Area OCS-A 0486. BOEM's regulations require BOEM to analyze Revolution Wind's COP. As described in Section 1.2 of the Draft EIS, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Revolution Wind's COP. Photorealistic visual simulations have been developed for the project from predetermined viewing locations (Key Observation Points) and are based on current industry practices and technologies. Additional visual simulations with higher resolution can be found on the BOEM website at the following link under the Visual Simulations tab: https://www.boem.gov/renewable-energy/state-activities/revolution-wind.

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		and unwanted manner. I strongly urge RI to re-examine this whole process and allow the people, especially residents of coastal towns, to have more input and offer alternative plans. Perhaps the turbines need to be 30 miles off the coast (like Virginia's), not just 15 miles. Perhaps every coastal town would rather install solar panels. Perhaps inland possibilities exist that could house a Windmill farm that would not impact RI's best treasure. Perhaps a more concentrated push for geo-thermal or solar power could make up the gap that rejecting this proposal might incur. Increasing solar power is the European Union's current solution to increasing its renewable energy resources. Should we not learn from Europe? They are leading the renewable energy effort and are opting for solar. Please give us the option to choose solar over wind. I would hate for needless haste to ruin, forever more, RI's coastal treasure. Again, thank you for your time and consideration.	
BOEM-2022-0045-0088	1	This will absolutely devastate the tourism industry in Rhode Island.	Thank you for your comment. As described in Section 3.18, BOEM anticipates that the overall impacts associated with the Proposed Action, when combined with past, present, and reasonably foreseeable activities, would result in minor adverse impacts and minor beneficial impacts to recreation and tourism. The overall effect would be small, and recreation and tourism would be expected to recover completely with no mitigating action required.
BOEM-2022-0045-0085	1	Having grown up in Little Compton and now retiring down here, my wife and I are apposed to the wind farm development off our coast. We feel its too large in scope and size to be constructed only 15 miles from the coast. It will certainly negatively effect our views to the south and therefore negatively impact our home. Structures of that size (approximately 743 feet tall) should be constructed far enough off shore so as to NOT impact peoples views which they've invested dearly in. We vote NO!!	Thank you for your comment.
BOEM-2022-0045-0084	1	This is too many turbines, too close to land. Tremendous visual pollution for many, many people. Ruining beautiful coastline that everyone deserves. Plus danger to natural resources . Process is too fast for adequate citizen involvement. Only a 3 week period from publication of impact statement to now. Simple as that. Other states are saying "No" to off shore turbines for the same reasons . Why not Rhode Island? Please say No this time.	Thank you for your comment.
BOEM-2022-0045-0074	1	Why can't these wind farms be further offshore or further inland? It will be sad to see our coastline that everyone can enjoy be ruined by these wind turbines. Our coastline is Rhode Island's greatest asset.	Thank you for your comment.
BOEM-2022-0045-0073	1	This is moronic. Wouldn't even generate much. The state of RI property values will decrease and the state will loose money. RI most valuable asset is its ocean views.	Thank you for your comment.
BOEM-2022-0045-0063	1	I am NOT in favor of the Wind Farm off the coast of Rhode Island. I think much more research needs to be done to weigh the environmental impact of this project and fast tracking is wrong	Thank you for your comment.
BOEM-2022-0045-0061	1	There are compelling arguments in favor of moving toward a larger proportion of energy being sourced from wind; however the use of high visual impact turbines and the installation of so many at one time should be rethought. We should move slowly in order to preserve our coastline and the wildlife within it. This program is too much, too soon. Test. Get there slowly to prevent making a huge mistake.	Thank you for your comment.
BOEM-2022-0045-0037	1	Members of NEFS 13 have been affected by the placement of just 5 turbines outside of Block Island. They now fish 13 miles further out to sea. Invasive species have moved in around the 5 turbine bases. The invasive species-python moved into the everglades; how's that working out? The ocean floor will change and habitat will change and migration patterns will change and be altered for ever. It is always surprising to listen to the silence from environmentalists that attend these meeting when they know the ocean environment will be changed negatively and for ever! There will never be enough money for the decommissioning. The environmentalists never question the decommissioning process or cost, but if this project was on land they would be making sure there was enough money set aside to restore the land to its previous condition; wonder why? There is a lot of talk now about social justice and environmental justice, yet no one is speaking out against the mining of the rare minerals that are necessary to move this green energy agenda forward. No one seems to care about the costs of	Thank you for your comment.

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		this type of mineral mining; destruction of land, loss of lives, environment destroyed, and illness. This type of mining also affects poor communities disproportionately and no one speaks out; where are the social justice warriors? They are driving their Prius's. The wind farms will put the commercial fishing industry out of business. Draggers will not be able to fish in between the turbines.	
BOEM-2022-0045-0053	1	I understand Revolution Wind is a "done deal." There is just too much money and political capital at stake for the outcome to be any other than full steam ahead as fast and forceful as feasibly possible. And when so-called "environmental" organizations have been co-opted into the destruction of the seabed and North Atlantic migratory flyway with visions of sugarplum technology and "grants" from the wind industrialists, all is lost. Yet the few humans who stand to gain tangible returns (i.e., boatloads of money) are flying blind—like roseate terns into football-field length blades, spinning at close to 200mph. The wind industrialists and their enablers have no idea how what they are hellbent on doing is going to effect the less than 350 North Atlantic Right Whales left on the planet, the piping plovers, roseate terns, the bats and insects drawn to lighting atop thousands of 866'-high turbines to be installed in the Mid-Atlantic Bight from MA to NC. Furthermore, these climate crusaders have little to say about their so-called "green," "renewable" technology that plunders Earth (and nearby rural and indigenous communities in Africa and China) for the highly toxic minerals required to make turbines, solar panels, and lithium-ion batteries. Nor do any of them talk much about the enormous amounts of steel and concrete it takes to construct behemoth turbines, the staggering amounts of fossil fuels it will take to build and power fleets of ships and other vehicles for transport, installation and maintenance of off-shore turbines. (I would also include decommissioning, since is is unlikely that these turbines will last more than 15-20 years, but we all know they will just leave their lubricant leaking, rusty ruins to eventually fall into the ocean.) It is clear that in order to "save" the planet from climate change (and pocket mind-blowing wads of public monies) they are willing and eager to kill it.	Thank you for your comment.
BOEM-2022-0045-0119	7	So we building wind turbines for the trying to solve our um climate uh issue solving for the wrong variable because energy is not the problem. A problem is our destruction of the planet, the our destruction of the biosphere and killing species and destroying habitat. And that's exactly what these wind turbines will do the I wish that was indicate got into consideration, because, uh, there's so much uh involved in them just the making them. Uh the the mining that is required for these industrial devices, the the manufacturing, the smeltering it's. All this takes a tremendous destruction of the planet, and requires energy to produce that this is energy on top of energy that we're already using in a business as usual. So we're not taking subtracting energy away building these machines we're adding to our fossil fuel and our emissions into the atmosphere. So these will definitely not solve our problem, because um, global warming and climate change are symptoms of our problem, which is the the destruction of species species uh extinction and um habitat loss. And so there's will be many, many that those involved in this, because you're outsourcing all the mining that will be involved, and all those habitats that will be destroyed in that in that instance, too, so I wish those were uh considered also. But it's only you were. We're only accounting the direct uh externalities. So I thank you for your time. I I hope that that would be considered, and that, uh, the decision would be to a a No. To proceed on purpose and need. Thank you again.	Thank you for your comment.
BOEM-2022-0045-0115	11	: I'm. In favor of the option of not proceeding with this project. Um! I think it's great that Rhode Island wants to try to decarbonize But oh, I don't see any. I don't think Rhode Island has any steel mills or cement factories, or uh plastic making for the blades. None of that's going to be done in Rhode Island or the copper wiring. No smelters here, so all of this carbon that will be required to produce these machines will be outsourced. So this I mean, It's solving for the wrong variable here. It's all about the jobs and the economy. And this that's It's not going to work. That's not what we're solving for. We're trying to solve for climate change, which is just a symptom. problem that is overshoot which was using too many resources for the planet. So business as usual, is not going to get us out of this problem. So that's That's number one. I mean, if we? If we want jobs, we can, we can we? There's plenty of things here to do for restoration, and to try to actually, in fact, decarbonize. But all these, all these turbines, all all these solar panels. They all require mining. So this is a destruction of the planet, Destruction of earth. We're not. We don't have any mines here in Rhode Island, so we're not mining those the steel. All the minerals that's that's going to be some other community, and usually one that is, it has been historically subjected to the injustice in terms of taking a brunt of energy requirements. So this this is this is not going to solve the problem. This is going to make our problem worse So i'm adamant against this. I don't understand why we think this is going to ah help this. It's it's not um That's it in terms of the animals that are there. The right whale, the fishermen who fish those seas. This is going to affect them all that. So those livelihoods and those those species are going to be affected. So. Um, So that this Ah, you know it. Ah, I can see. Okay, great. The Chamber of Commerce wants this. Yeah, this will be good. It will get jobs, but that's not	Thank you for your comment.

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		what you were trying to do. We're trying to solve for climate change, and this is not going to happen so. Ah, this will just exasperate that. So now all this mining that's required, and because there are there aren't enough resources, you're going to run into the same problem as you do with fossil fuels. These are finite resources. They're now starting to mine the oceans. So here it is. So we have to electrify everything. Electrify the cars. Where do we get these metals? Well, let's mind the oceans. Well, that's really a good idea: And so it's not what we use, what kind of energy we use for our cars. It's the car period. Let's Let's get rid of the cars, so all the cars require mining. They require this electric or ah internal combustions have tires on them, the rubber, it's all. Where does the tires go? Where do they go? Where did everything get recycled? It Doesn't get recycled? They go to landfills, So i'm adamantly opposed to this, and it's not a a nimby thing. It's a Nope, not on planet Earth. Thank you for your time	
BOEM-2022-0045-0115	12	Great. So this is uh David Michel. I'm a Connecticut uh State representative. Uh, thank you for uh organizing this public hearing, and I just wanted to make a couple of comments um in regards to both, of course, the is in the in terms of the environment and the jobs as well. I don't think that if we pal, drive those monopoes. We're going to solve climate issues for a couple of reasons. One, the Sound and I worked with Christopher Clark, who is the number one scientist in the world, and or to panic right whales before he was at hired by vineyard wind, talking about the sound limits, the noisiness and the the mitigation. The ways to mitigate sound will not be enough if a whale is in the area at a specific time within a half a mile, or whatever. Now I know that there's observation techniques that are going to be used. But if we know that at certain times of the year we're supposed to see whales in one specific area, because they follow the food. Well, talking to Noah personnel, I also found out that they're not necessarily where we expect them to be so. I think we're going to run into issues with the north of any great whales, despite what the developers saying, we, you know, and on the job creation. I really have to talk about this. I requested a study be made by Tufts University Structural Engineering Department to compare monopoly and concrete gravity base we're talking, say we don't build the secondary still for the monopoly in Connecticut. We will, with a concrete gravity base. We will create twenty five times the amount of jobs, and if we were to build, and there's no there's no plans on that right now in Connecticut to build the second industry for monopoly, we'd still be the amount of jobs by twelve, twelve times. Can't talk about economy. We're fixing the economy. If we're not going to take this seriously by on two levels. We talked about jobs. Well, there it is. We want to talk about environment. Let me explain. Go back to the Wells. Whales are the gardeners of the seas. They maintain the level of phytoplankton in the ocean. They maintain the phytoplankton with their ah plumes filled with nutrients and their well-teled movements sending the phytoplankton to the surface to multiply, and that phytoplankton is responsible for three things. It's responsible for carbon absorption so much that a whale when it dies could carry up to ten thousand trees worth of carbon absorption in its carcass. The phytoplankton also produces fifty to eighty percent of the oxygen we breathe, and third, the phytoplankton is the source of food for the zooplankton, which are the beneficiaries. So when we're talking about birds and all the other animals, I think that it's very important to talk about the keystone species, and and there are going to be the most affected by noise. Why are we even going to try this way. Why can't we be leaders in this industry on the east coast, or wherever we are going to do this this bit with concrete gravity base no vertical minds. It's not a floating foundation. The whales are not going to bump into it, but concrete gravity days that get silent me lower it to the sea floor. I've heard the arguments of the developers in Connecticut, and they've been the boat against concrete gravity base. So i'm not saying, we shouldn't be doing this. But when I look at the impact statement that I see moderate on on marine mammals, I see moderate on the bentos, how can you explain moderate impact on the bentic life? If you're going to pile, drive, steel pipes into the C Four. Where is the impact on the watertog with the cloudy. We've got to take this very seriously when the threshold of collapse with the ocean is on the threshold of collapse. We cannot play with it right now. I'm seeing a lot of a lot of gings, and these games have to stop and we need to step up to the plate. Be responsible. You don't find climate change by hurting the climate regulator in the ocean. That's a bad statement. We're not going to fix climate change by power, driving still Bytes teeth. Pacific concrete gravity basis. Thank you very much.	Thank you for your comment.

General Support

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BOEM-2022-0045-0110	1	Revolution Wind's offshore wind project, if responsibly developed to avoid, minimize, mitigate, and monitor potential environmental, cultural, and economic impacts, will provide substantial benefits to society and the environment. The Project is part of the urgent transition away from dirty, climate-altering fossil fuels to the clean energy economy envisioned by the Biden Administration that is necessary to avoid catastrophic warming. This rapid transition to a clean energy economy is paramount to preserving wildlife and the environment. Absent a substantial shift from carbon intensive sources of energy to solutions like offshore wind, we face climate change that will drive countless species to extinction in both marine and terrestrial environments, threatening entire ecosystems.	Thank you for the comment.
BOEM-2022-0045-0091	1	Offshore wind is poised to play an essential role in the ability of Connecticut, Rhode Island, and the region, to meet critical greenhouse gas reduction and clean energy goals. Accordingly, we encourage a robust procurement of offshore wind that maximizes the deployment of these resources consistent while satisfying stringent environmental standards. Revolution Wind is an important part of the region's energy future.	Thank you for the comment.
BOEM-2022-0045-0113	1	Offshore wind energy is critical to meet our nation's climate goals, particularly in New England where its technical energy resource potential is greater than all other clean energy resources combined.1 Adding even a modest amount of offshore wind to the New England grid could drive down wholesale energy costs, especially during cold snaps and storms when ratepayers often see a sharp spike in energy prices.2 Revolution Wind has three Power Purchase Agreements (PPAs) in place with Rhode Island and Connecticut, totaling 704 MW. Delivering the clean energy from this project successfully and on time is critical for these states to meet their clean energy goals.	Thank you for the comment.
BOEM-2022-0045-0114	1	Let me begin by stating that I am a strong proponent of well sited, well designed and properly mitigated offshore wind projects off our Northeast coast, including Revolution Wind. The RI/ME WEA, NJ WEA, and the NY Bight are blessed with modest water depths extending well offshore as well as powerful wind regimes. These OSW projects can be built at a utility scale in relatively close proximity to major load centers from Boston south to Washington DC. Further, these projects can take full advantage of more than two decades of successful European experience. The currently available wind turbine generators (12-14 MW) coupled with extensive European construction and operating experience allows for competitive pricing and strong capacity factors. Successful pilot programs in US waters (Block Island, Dominion) provide additional supportive experience. Orsted's 30 MW Block Island project has now been in operation for more than five years in waters off mainland Rhode Island, with positive results. Unlike other areas in the United States (desert Southwest, Texas to North Dakota ''wind belt''), the population density, existing land uses and sunlight incidence in the Northeast is not conducive to cost competitive PV or land-based wind at utility scale. Moreover, the 1,500 mile plus, multi state HVDC transmission systems needed to move large blocks of power from the mid-Continent wind belt to the Northeast and mid-Atlantic are not yet moved beyond the early planning stage. If the Northeast and mid-Atlantic are to decarbonize their heavily fossil fuel driven electrical power, transportation and building heating/cooling sectors, large scale offshore wind must play a major role. President Biden's national goal of 30,000 MW (30 GW) by 2030 is a modest start but not nearly enough to keep pace with the expected demand for cost effective zero carbon energy. In fact, just 4 states (Massachusetts (5,600 MW), New York (9,000 MW), New Jersey (11,000 MW) and Virginia (5,200 MW)) have already advanced plans for purchasing 30,800 MW of OSW on their own initiative. Accordingly, our collective objective should be to move well sited OSW projects through the environmental review gauntlet as quickly as statutory timelines and the abundance of precedent studies and operating experience allow. 30 GW nationwide is just a down payment on the OSW capacity which our Nation will require.	Thank you for the comment.
BOEM-2022-0045-0003	1	AIM strongly supports Revolution Wind's 700 MW proposal and its commitment to furthering the region's clean energy future and making economic commitments that will benefit New England. AIM is the largest general trade association in Massachusetts. AIM's mission is to promote the prosperity of the Commonwealth of Massachusetts by improving the economic climate, proactively advocating for fair and equitable public policy, and providing relevant, reliable information and excellent services. AIM strongly supports the development of offshore wind energy as a major new source of renewable power for all consumers. While this project was not the result of a procurement directed by Massachusetts (it is split approximately 60/40 between Connecticut and Rhode Island), it adds to the long-term offshore wind procurements recently completed by Massachusetts. The long-term power contracts that have emerged from procurements in Massachusetts, Connecticut, and Rhode Island, including this one, will deliver large amounts of carbon-free electricity for many years to the	Thank you for the comment.

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		region's residents and businesses. This is extremely important as Massachusetts, Connecticut and Rhode Island have all committed to net zero carbon emissions in the coming decades. Meeting these goals is challenging. It requires an "all hands-on deck" approach for developing new renewable energy sources. The Revolution Wind project will complement other offshore wind projects in the area and add needed capacity to our renewable energy mix. Other than one large hydropower project from Canada through Maine, Revolution Wind and the other offshore wind projects are the only large-scale renewable energy projects capable of generating the amounts of renewable power we need. Solar, while important, will not generate enough to reach our goals. Successful completion of this project will help New England meet its greenhouse gas reduction goals. The greenhouse gas reduction potential of this one project is enormous. It will remove the equivalent emissions from 150,000 cars, annually. With Revolution Wind our greenhouse gas goals are attainable. Without it, making these goals will be near impossible. That makes this project vitally important. None of this means that the review should be fast tracked or ignore legitimate concerns of impacted parties. BOEM must review all impacts to make sure all voices are heard and any negative impacts are addressed. That type of analysis will not only help Revolution Wind succeed but also help future projects as stakeholders know that the process is fair and inclusive. Additionally, Revolution Wind has made an enormous commitment to the economic vitality of the region. While much of the investment from this project will occur in Connecticut and Rhode Island, not Massachusetts, there is no doubt that economic vitality in these nearby areas will positively impact residents and businesses in Massachusetts and surrounding areas. Certain materials cannot be sourced locally and will need to be purchased throughout the Northeast region and throughout the United States, creating additional demand and jobs. Also, the carbon reduction benefits will benefit the entire United States and contribute to the necessary worldwide reduction in greenhouse gas emissions that will help mitigate climate change. The benefits in jobs and to the environment will accrue even more once additional offshore wind projects follow Revolution Wind's example and begin construction soon after. Revolution Wind, and offshore wind in general is a win-win situation. It will result in large reductions in greenhouse gas emissions and bring large amounts of investment regionally. We can no longer delay offshore wind development – too much economic and environmental benefits depend on it and the Revolution Wind project has been studied extensively. Without it there is no chance we will stop the negative impacts of climate change. We urge the Bureau of Ocean Energy Management to allow the New England region, and the United States, to be the new leader in clean energy development.	
BOEM-2022-0045-0004	1	I write today to express my enthusiastic support for the Revolution Wind Energy Project under development by Ørsted and Eversource. Revolution Wind represents significant benefits on the federal, state, and local levels. This project will contribute to the national goal of producing 30 gigawatts of electricity from offshore wind by 2030, it will support the state goal of a carbon-free electricity supply by 2040, and it will provide my community with increased opportunities for jobs that include family-sustaining wages. While these federal and state clean energy goals are critical to the nation's collective good regarding energy security and independence, it is the local benefit that I am most qualified to address regarding the benefits of Revolution Wind. Of the 25 Distressed Municipalities in Connecticut, New London is ranked fourth. The Port of New London is home to State Pier, located on the City of New London's waterfront. Components for Revolution Wind will be staged, assembled, and shipped from State Pier, which is nearing completion of a $255 million rebuilding that will transform this facility into a hub for offshore wind along the East Coast, and a state-of-the-art marine terminal with heavy-lift capabilities to handle a wide variety of cargo for decades to come. Revolution Wind initiated the rebuilding of this long-underutilized state facility through a public-private partnership with the state. The Host City Agreement we signed for use of the pier by Østed and Eversource guarantees the City at least $5.25 million in payments over seven years, or $750,000 annually. Combined with payments from other project partners, New London will realize more than $1 million in new revenue to its general fund. In addition to these benefits, Ørsted and Eversource have committed millions of dollars in community development in Connecticut to support offshore wind supply chain and workforce development, maritime research, STEM education, and local fishing. New London will benefit from an increase in activity at State Pier from jobs directly related to Revolution Wind and the two other offshore wind energy projects already committed to the port -- South Fork Wind and Sunrise Wind. The transformational rebuilding of this marine terminal combined with the need for new careers in the offshore wind industry will provide a multiplier effect for jobs in my city as the terminal and its workers increase the need for a wide range of goods and services. On a personal level, I am proud that New London will play a vital role in supplying Connecticut with 304 megawatts of clean, sustainable energy produced by Revolution Wind as our nation works to address the pressing matters of climate change and energy security.	Thank you for the comment.

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BOEM-2022-0045-0007	1	I write on behalf of the Chamber of Commerce of Eastern Connecticut's Board of Directors' unanimous decision to support the Revolution Wind Energy Project and to urge your speedy approval of the necessary permit to proceed. Our Board of Directors firmly believe that the Revolution Wind project is essential for Connecticut to comply with the state legislative mandate that commits the state to a carbon-free electric grid by 2040. This legislation codifies the Governor's Executive Order issued in 2019. It is also equally important that we work to meet President Biden's mandate to generate 30 gigawatts of electricity from offshore wind power by 2030. On a more local level, Revolution Wind will provide significant support for the Chamber's economic development work on behalf of the 41 municipalities we represent. From the construction jobs in place now to the specialized staging, assembly, shipping, operation, and maintenance jobs during and after construction, Revolution Wind will bolster the region's economy by increasing opportunities for skilled trade occupations and advanced technology careers. Revolution Wind and the entire offshore wind industry represent a major diversification of the region's economy. And because of the specialized nature of this new industry, the region stands to gain more career opportunities that will provide good-paying wages that in turn will support existing businesses, entrepreneurs, homeownership, and stable communities. The magnitude of what Revolution Wind and the offshore wind industry means to this region cannot be overstated. Much of the work related to the industry will be launched out of the State Pier in New London. The pier, located in a distressed city and in an Opportunity and Enterprise Zone, will provide opportunities for local and regional residents for decades to come. Additionally, the Chamber is in the process of launching a Regional Innovation Center/Co-working location in the heart of New London. This effort was launched to provide support for residents of the city and elsewhere, an opportunity to partake in this new industry. The Center will focus on education, advanced-skill training, and support for entrepreneurs in all areas of business, none of which would have happened had it not been for Revolution Wind selecting New London as their base of operations. As a leader in Eastern Connecticut for decades, I am pleased that this new industry is a major step towards a carbon-free energy industry and confident in stating that Revolution Wind represents the beginning of economic development opportunities in Eastern Connecticut that will last for generations to come. I wholeheartedly support the Revolution Wind project and urge speedy approval of the necessary permits.	Thank you for the comment.
BOEM-2022-0045-0008	1	As the Business Manager of Iron Workers Local 37 Providence RI, I support offshore wind large scale utility development. The Revolution Wind project is an opportunity to not only drive the nation's clean energy future, but also create quality family sustaining union jobs at the same time. Although on a smaller scale, my members benefited by these family sustaining jobs while working on Americas first offshore wind project, Deep Water Wind off the coast of Block Island. Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the East Coast. As we begin recovering from the unprecedented social and economic impact of the COVID-19 pandemic, the approval of the Revolution Wind project, developed by Orsted and Eversource, will directly lead to the creation of union jobs that come with good pay and benefits. Offshore wind is critical to the future of our national security and environment. I urge BOEM to move forward with Revolution Wind's permitting process.	Thank you for the comment.
BOEM-2022-0045-0009	1	I am writing in support of the Revolution Offshore Wind Project off the coast of Rhode Island. Offshore wind development is key to reducing our dependence on fossil fuels. It is a must if we are to face the climate crisis effectively. Please move this project ahead at full speed. We haven't a moment more to squander. Thank you.	Thank you for the comment.
BOEM-2022-0045-0041	1	I am submitting this testimony regarding Revolution Wind on behalf of the 800 members of Menunkatuck Audubon Society, the local chapter of Audubon for 12 cities and towns in south central Connecticut. Climate change is the biggest threat to birds. Audubon's climate science at climate.audubon.org reveals that we may lose 389 species of North American birds if warming climbs to 3 degrees Celsius above pre-industrial levels. We must get to 100% clean energy and net zero emissions as soon as possible and Menunkatuck Audubon supports offshore wind's contribution to that goal. Offshore wind represents the largest source of renewable energy in the Northeast region. By 2040, it is estimated that offshore wind will represent the largest share of Connecticut's renewable energy portfolio. This project will go a long way in advancing Connecticut's clean energy goals and decreasing our dependence on fossil fuels, and bring tens of thousands of jobs to our region. Revolution Wind will support the state of Connecticut's target of acquiring at least 2,000 MW of offshore wind energy by	Thank you for the comment.

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		2030 and deriving 100% of the state's electricity needs from zero-carbon generation, as well as the Biden administration's goal of developing 30 Gigawatts of offshore wind nationally by 2030. Offshore wind projects will provide significant economic, as well as environmental, benefits to the region. Estimates of the total economic benefits of harnessing our offshore wind potential range from $12 to $25 billion, with 77,000 - 83,000 associated jobs. However, in advancing this project BOEM and Revolution wind must take every measure to avoid, minimize, and mitigate effectively for the project's impacts of collision and displacement of birds. These birds are protected by federal laws including Endangered Species Act and Migratory Bird Treaty Act. It makes little sense to cause harm while seeking to do good when the harm could be avoided.	
BOEM-2022-0045-0011	1	I support the Revolution Wind proposed offshore wind farm project and I hope it will be expedited for approval and installation. We need to increase our sources of renewable energy and we can follow Denmark's example to use wind turbines and our offshore wind capacity to generate electricity and reduce greatly our dependence on fossil fuels. Wind farms have a track record; we can look at the evidence of modern wind turbine installations offshore around the world and conclude that their impact on the marine environment and on avian migration is much less than opponents would assert. In fact, I'm sure that shipping, trawling and other fossil-fuel powered commercial marine uses have greater overall impact. As Americans, we use a lot of electricity to power our businesses and homes, and in the Northeast we especially need clean sources of electricity for heating in the winter as we make a transition from gas and oil furnaces, wood burning stoves and other polluting heat sources. We know there are high rates of asthma in Connecticut and air pollution is a known contributing factor. As for aesthetic concerns, I personally think wind turbines look graceful and attractive whether on land or in the sea. I am doing my small part to fight climate change with home solar panels, a modest EV (Chevy Bolt), native planting, recycling, etc. We need systemic change and Revolution Wind Farm is part of that. I support the proposed wind farms off Long Island too. We need the clean energy.	Thank you for the comment.
BOEM-2022-0045-0012	1	On behalf of the Eastern CT Workforce Inveshnent Board (EWIB), we would like to express support for the Revolution Wind Energy Project now under your review. EWIB is a non-profit agency that serves a 41-town region as mandated through the Federal Iimovation and Opportunity Act (WIOA). Our team oversees a network of workforce-related programs funded from a variety of sources including the operations of the region's American Job Centers. We created Comlecticut's manufacturing "Pipeline" training approach via the Eastern CT Manufacturing Pipeline Initiative (MPI), which has earned national recognition as an accelerated, demand-driven model for building a sector-specific talent pipeline. Revolution Wind will diversify the economy of Southeastern Connecticut, a goal of leaders across the region for years as residents and businesses here have for generations experienced the challenges associated with an economy based largely on defense spending and tourism. Each of these sectors have suffered at various points over the decades, proving that an overbearing reliance on just a few indush·ies can be harmful to a regional economy. Revolution Wind, which will be built 15 miles off the Rhode Island Coast, 32 miles off the C01mecticut coast, and 12 miles off Martha's Vineyard, will provide a new source of careers for the region and state.	Thank you for the comment.
BOEM-2022-0045-0013	1	I am writing on behalf of the MassHire Greater New Bedford Workforce Board in support of Ørsted and Eversource's Revolution Wind project. The Workforce Board is a business-led, policy-setting board that oversees workforce development initiatives in the ten-community region stretching from Dartmouth to Wareham, MA. The Board is composed of business, civic, education, labor and community leaders and is appointed by the New Bedford Mayor. Our partners, Ørsted and Eversource understand our mission and will add to the region's workforce development in clean energy. We recognize that the success of their offshore wind projects equates to success for the Southcoast Offshore wind's continued growth is a regional economic development opportunity and a critical component of the state's clean energy future. While Revolution Wind will serve the states of Connecticut and Rhode Island, its advancement is crucial for future projects that will directly benefit Massachusetts. A win for offshore wind in our neighboring states is a win for us as we look to secure cleaner, renewable energy from several offshore wind projects in the pipeline. We are encouraged by Revolution Wind's positive local economic and community impact and look to it as a model for what the industry is capable of providing in terms of job creation, supply chain opportunities, workforce development initiatives, environmental education, port redevelopment, and more.	Thank you for the comment.

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		We are confident that the Ørsted and Eversource team will build a project that not only Connecticut and Rhode Island can be proud of, but all New England, including here on the Southcoast of Massachusetts. For all these reasons, we support the Revolution Wind project and offshore wind more broadly as a solution to achieving a carbon-free, clean energy future for the region.	
BOEM-2022-0045-0014	1	On behalf of the seventeen (17) Local Trade Unions and approximately 10,000 members that comprise Rhode Island Building and Construction Trades Council I write in support of the proposed Revolution Wind project and urge your office to approve it. Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the East Coast. As we begin recovering from the unprecedented social and economic impact of the COVID-19 pandemic, the approval of the Revolution Wind project, developed by Orsted and Eversource, will directly lead to the creation of union jobs that come with good pay and benefits. As a union member, I support offshore wind and I know our council does. Large scale utility development, like offshore wind, will not only help reduce our massive carbon footprint, but will also mean a tremendous amount of economic opportunity in the form of good paying middle class jobs and careers, and community benefits. I strongly believe that Americans should not have to choose between a good job and a clean environment—we can and must have both. The Revolution Wind project is an opportunity to not only drive the nation's clean energy future, but also create quality, family sustaining union jobs at the same time. I urge BOEM to move forward with Revolution Wind's permitting process. BOEM provided six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider – No Action. No Action would harm our state's efforts to address climate change, while also eliminating quality job opportunities and sustainable work for hard working, local tradesmen and women that come with this project. Revolution Wind must be built. Offshore wind is critical to the future of our national security, environment and economic recovery. Accordingly, I urge BOEM to stick to its published schedule for the Revolution Wind project and put our tradesmen and women to work. Thank you.	Thank you for the comment.
BOEM-2022-0045-0016	1	I write to express support for the Revolution Wind project. Blount Boats has been building state-of-the art vessels at our full-service shipyard in Warren for over 73 years. We've worked on a great number of complex, interesting projects throughout our long history, but it would be difficult to find a project more interesting than the vessels we are building to support the U.S. offshore wind industry, including Revolution Wind. We had the opportunity to build the Atlantic Pioneer, America's first service vessel solely dedicated to supporting offshore wind farms. Since then, Blount Boats has emerged as a leader in the CTV space, having built two of the three U.S. flagged CTVs in operation. And thanks to Revolution Wind, we're building more. We appreciate BOEM's careful consideration of the Revolution Wind project and understand that BOEM provided six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider - No Action. Without action, Rhode Island will not realize Revolution Wind's tremendous potential to create jobs and grow the supply chain. Revolution Wind is good for Rhode Island's economy and the region's environment. We at Blount Boats urge you to approve this project and keep our state's momentum going.	Thank you for the comment.
BOEM-2022-0045-0018	1	I am writing on behalf of the Connecticut Business & Industry Association (CBIA) in support of Ørsted and Eversource's Revolution Wind project. The project is Connecticut's first offshore wind farm and will help the state achieve its goal of a 100 percent zero-carbon electricity supply by 2040. It will deliver 304 megawatts of renewable energy to the state as well as 400 megawatts to Rhode Island – enough to power more than 350,000 homes across both states. While the clean energy merits of Revolution Wind are substantial on their own, another exciting benefit for Connecticut is the project will help launch the state's next great maritime industry from the Port of New London. Revolution Wind is one of three Ørsted and Eversource projects that will stage and assemble wind turbines at the newly redeveloped State Pier, a long-underutilized state asset that is being transformed into a modern, heavy-lift capable port facility. This transformative port infrastructure project is creating an offshore wind industry hub now and will position the facility to serve a broader range of industries, cargo and vessels while receiving significant funding from Ørsted and Eversource to achieve this goal. Once transformed into a state-of-the-art, heavy-lift terminal, State Pier will be a world-class resource for Connecticut for decades to come and will reestablish New London as a hub for global commerce. State Pier will help put the Port of New London back on the map as the epicenter of Connecticut's maritime economy while increasing revenues for the state. State Pier will also play a vital role in the fight against climate change, supporting the construction of Ørsted and Eversource's South Fork Wind (starting in early 2023), followed by Revolution Wind and Sunrise Wind projects. Collectively	Thank you for the comment.

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		these wind farms will provide enough clean energy to power more than one million homes in the Northeast. Additionally, State Pier will become a regional hub for the offshore wind industry, serving as an anchor to attract other aspects of the offshore wind industry supply chain to the region and the state. The Port of New London's proximity to all wind farms off the southern New England coast makes it the primary staging and shipping point for projects in those waters. The redevelopment of State Pier is already creating jobs, including those for Connecticut's building trades. More than 400 well-paying construction jobs are anticipated by the project's completion in 2023. It is estimated that the project will add millions of dollars in value to the New London economy, with workers and visitors frequenting local establishments to eat and shop. As a staging and assembly hub for Ørsted/Eversource projects, vessel activity will significantly increase at State Pier and generate high-skilled, long-term employment in New London. The companies anticipate 80 to 120 well-paying offshore wind-related positions at the site. The State Pier and Revolution Wind projects are important for Connecticut's leadership in the green economy and its ability to assist the national effort to reduce our carbon footprint, while also helping diversify the region's economy. They serve as a catalyst for the endless possibilities for our region's future. In addition to the hundreds of construction jobs, including union laborers, that have already been created on-site at State Pier in recent months, it is exciting to think about the future creation of a robust offshore wind ecosystem in the region thanks to the revamped port and Revolution Wind.	
BOEM-2022-0045-0019	1	Dear Program Manager: Building Futures' mission is to meet employer and industry needs for skilled workers through registered apprenticeship and create family-sustaining career opportunities for Rhode Island's diverse community members. Our successful building trades' pre-apprenticeship program is nationally recognized for its efficacy and comprehensive approach. To date, three-hundred and sixty men and women have graduated our pre-apprenticeship program and launched their careers as apprentices in one of twelve building and construction trades. Offshore wind is an investment in our future. Revolution Wind has already made a significant training commitment to ensure that diverse community residents experiencing poverty are not left out of this future. Instead, they will have a clear path to family sustaining careers through Registered Apprenticeships in the construction trades. Large-scale utility development, like offshore wind, will help reduce our massive carbon footprint and create economic opportunity in the form of jobs and community benefits. The approval of the Revolution Wind project, developed by 0rsted and Eversource, will directly lead to the creation of union jobs that come with good pay and benefits. The Revolution Wind project is an opportunity to not only drive the nation's clean energy future, but also create quality, family sustaining union jobs at the same time. I urge BOEM to move forward with Revolution Wind's permitting process. BOEM provided six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider - No Action. No Action would harm our state's efforts to address climate change, while also eliminating quality job opportunities and sustainable work for hard working, local tradesmen and women that come with this project. Revolution Wind must be built. Offshore wind is critical to the future of our national security, environment and economic recovery. We urge BOEM to stick to its published schedule for the Revolution Wind project and put our tradesmen and women to work. Sincerely, Andrew L. Cortes Executive Director	Thank you for the comment.
BOEM-2022-0045-0020	1	Dear Program Manager: I am writing on behalf of the Massachusetts Business Roundtable in support of 0rsted and Eversource's Revolution Wind project. Our organizational mission is to strengthen the state's economic vitality by engaging with public and private leaders to develop public policy solutions that make Massachusetts a more competitive, desirable place to do business within the global economy. Two of our members, 0rsted and Eversource, understand this mission and are leaders in the clean energy industry in our region. We recognize that the success of offshore wind projects equates to economic growth for the Commonwealth. Leaders from our member institutions, who employ more than 250,000 people in Massachusetts, have made it resoundingly clear that clean energy is imperative to the long-term success of our state and region. In fact, continuing our support for offshore wind development as a regional economic development opportunity and essential component of the state's clean	Thank you for the comment.

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		energy future has been a key component of the Roundtable's public policy again. Projects like Revolution Wind will help address climate change and achieve a carbon-free economy while simultaneously creating jobs and new business opportunities for companies in Massachusetts and beyond. We are encouraged by Revolution Wind's positive local economic and community impact and look to it as a model for what the industry is capable of providing in terms of job creation, supply chain opportunities, workforce development initiatives, environmental education, port redevelopment, and more. The Roundtable has been engaged in initiatives to ensure a pipeline of skilled workers are available as the industry grows and matures. We are confident that the 0rsted and Eversource team will build a project that will be of great benefit to our region and we are pleased to express support for the Revolution Wind project and offshore wind more broadly as a solution to achieving a carbon-free, clean energy future for the region. Sincerely, JD Chesloff President & CEO	
BOEM-2022-0045-0023	1	I am writing to show my support for the offshore wind industry here in the U.S. and to thank your agency for its work in releasing the draft Environmental Impact Statement for Revolution Wind. Please accept this letter to serve as a formal statement of support for the project. The North Kingstown Chamber of Commerce is one of Rhode Island's leading business membership and trade organizations located in North Kingstown, RI that includes the Quonset Business Park that employs more than 10,000 people within over 200 businesses. Quonset, the home to Port Davisville, has served as the staging, storage, and assembly area for wind turbine equipment and continues to serve the offshore wind industry today. While offshore wind is a developing industry for the U.S., it is a proven industry that began right here in Rhode Island with the Block Island Wind Farm. Now, we're looking to continue the momentum with the Revolution Wind project. Revolution Wind is making investments in our ports, workforce training, institutions of higher education, and creating opportunities for businesses in the local supply chain. We need Revolution Wind to be built. We appreciate BOEM's careful consideration of the Revolution Wind project and understand that BOEM provided six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider – No Action. Without action, Rhode Island will not realize Revolution Wind's tremendous potential to create jobs and grow the supply chain. Revolution Wind is good for Rhode Island's economy and the region's environment. I urge you to approve this project and keep our state's momentum going.	Thank you for the comment.
BOEM-2022-0045-0021	1	To whom it may concern, It is with great enthusiasm that I write you in support of the Revolution Wind energy project. While the overall goal for project partners Ørsted and Eversource is to deliver clean, sustainable energy derived from offshore wind power, this project also will deliver jobs and economic development opportunities for New London County and the state. And the hub for all of this economic energy is State Pier in the City of New London, which is ranked as the fourth most economically distressed city in Connecticut. This is not a small point. For decades New London has sought to revive its once bustling downtown, which in its heyday was the center of commerce in southeastern Connecticut. From its days as an international hub for the whaling industry to its role as the county leader in retail commerce and professional services, New London for generations drove the regional economy. Decades of decline and false starts followed. Now, however, Revolution Wind, in its role at the forefront of the nation's offshore wind industry, is providing the foundation for a distressed city's rebirth as the leader in economic opportunity for the region. The development of offshore wind projects such as Revolution Wind, which will be staged, assembled, and shipped from State Pier will create more than 100 ongoing, well-paying, pre-assembly positions, as well as thousands of other indirect and induced jobs throughout the state and region to support the facility and its workers. Ørsted and Eversource, through Revolution Wind, are contributing nearly $100 million to help transform State Pier from an underutilized asset into an offshore wind energy hub, and a modern, heavy-lift capable marine terminal that can process a far wider variety of cargo than it has in the past.	Thank you for the comment.

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		Additionally, Revolution Wind means direct investment in the City of New London, which is guaranteed at least $5.25 million in payments over seven years, or $750,000 annually, as Ørsted and Eversource use State Pier. Combined with payments from other project partners, the city will realize more than $1 million in new revenue to its general fund. In addition to these benefits, Ørsted and Eversource have committed millions of dollars in community development in Connecticut to support offshore wind supply chain and workforce development, maritime research, STEM education, and local fishing. Perhaps most importantly, Revolution Wind will diversify an economy that has long been primarily dependent on the insurance, defense, and aerospace industries. Thank you for this opportunity to voice my support for Revolution Wind.	
BOEM-2022-0045-0095	1	ConservAmerica, a nonprofit organization that promotes market-based solutions to today's environmental, conservation, and energy challenges, is pleased to support Revolution Wind, the offshore wind farm that will provide electricity to Connecticut and Rhode Island. Our organization is focused on fostering relationships between policymakers and stakeholders in order to protect the environment and grow the economy. We believe in the development of clean, affordable energy and the reduction of carbon emissions. Revolution Wind helps to accomplish both of those goals. Revolution Wind will deliver over 700MW of electricity, enough to power 350,000 homes. Not only will the project help to satisfy the country's growing demand for electricity, it will help both Connecticut and Rhode Island to meet their clean energy goals. The Bureau of Ocean Energy Management's Draft Environmental Impact Statement (DEIS) provides a meticulous review of the potential impacts and various alternatives for Revolution Wind. It is reassuring that the DEIS found negligible or minor adverse impacts on animal populations, tourism and recreation, and coastal communities. Additionally, the project will provide significant economic benefits. It is projected that the construction of the wind farm will create roughly 1,200 direct jobs, as well as dozens of permanent positions in operations and maintenance once construction is completed. We also understand that that the developers have committed $77.5 million to redevelop Connecticut's New London State Pier and $40 million to improve Rhode Island's port infrastructure. These investments will boost economic activity in both states while creating and supporting hundreds of jobs. The findings of the DEIS demonstrate that the "No Action Alternative" should not be pursued. If the No Action Alternative is taken and the project does not proceed, its associated benefits, which include eliminating an estimated one million metric tons of carbon dioxide emissions, powering hundreds of thousands of homes and creating many good paying jobs, would not be realized. We appreciate BOEM's diligence in preparing the DEIS and reviewing public comments. For the reasons stated above, ConservAmerica supports the continued development of Revolution Wind.	Thank you for the comment.
BOEM-2022-0045-0094	1	(Revolution Wind) submitted to the U.S. Bureau of Ocean Energy Management (BOEM). Revolution Wind and the several other projects in adjacent lease areas that are now under contract are essential to realize President Biden's goal of deploying 30 gigawatts of offshore wind in the United States by 2030. Approval of offshore wind projects are pivotal for states on the Atlantic Coast to realize their economic development potential from renewable energy. A recent economic development study from American Clean Power (as the former the American Wind Energy Association) reported that offshore wind development off the Atlantic Coast could translate into $57 billion in direct investment, add $25 billion in annual economic output and create 83,000 well-paying jobs by 2030, all while stabilizing retail electricity rates and emitting no climate-altering greenhouse gases. It will help New England reach its goals for renewable energy and reduction of greenhouse gas emissions. The two states contracting with Revolution Wind have requirements for a clean energy power grid. Connecticut has established a 100 percent zero carbon electric sector by 2040 goal while Rhode Island requires 100 percent of electricity demand be from renewable energy by 2033. RENEW recognizes that offshore wind projects must be developed with strong, and reasonable, protections in place to protect our coastal and marine environment and wildlife. On behalf of RENEW, I offer my appreciation to BOEM for working to ensure offshore wind development is accomplished responsibly. BOEM's determination on Revolution Wind and other projects advanced in permitting will send a clear message to the entire offshore wind industry in welcoming it to continuing its majorinvestments in this new clean energy sector.	Thank you for the comment.
BOEM-2022-0045-0090	1	Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the East Coast. As we begin recovering from the unprecedented social and economic impact of the COVID-19 pandemic, the approval of the	Thank you for the comment.

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		Revolution Wind project, developed by Orsted and Eversource, will lead to significant job creation and economic development. The Revolution Wind project is an opportunity to advance a future for clean energy and create quality, family sustaining union jobs at the same time. RIAGC urges BOEM to move forward with Revolution Wind's permitting process. The use of renewable energy alternatives, like wind energy, are important to addressing our nation's efforts to develop clean energy. These issues directly impact our nation's national security, environmental concerns, and economic recovery. We urge your support.	
BOEM-2022-0045-0087	1	Vaisala has long been committed to renewable energy and is in full support of the construction and operations plan (COP) submitted by Revolution Wind, LLC (Revolution Wind) for its proposed Revolution Wind Offshore Wind Farm Project (Project) offshore Rhode Island. As a weather and environmental technology leader for more than 85 years, Vaisala is very encouraged by the recent renewed commitment to offshore wind energy and we are in full support of this project.	Thank you for the comment.
BOEM-2022-0045-0078	1	Revolution Wind's commercial-scale offshore wind energy facility is needed to fulfill three Power Purchase Agreements (PPA): a 200-MW contract with the State of Connecticut approved in January 2019, a 400-MW contract with the State of Rhode Island approved in June 2019, and a 104-MW contract with the State of Connecticut approved in December 2019. These projects contribute to Connecticut's legislative directive to purchase 2,000 megawatts (MW) of offshore wind energy by 2030, and Rhode Island's 100% renewable energy goal by 2030. Several decarbonization studies have concluded that New England alone will need between 30-45GW from offshore wind to achieve 80% greenhouse gas reductions by 2050. And these estimates may be low given that Massachusetts now requires an 85% reduction in greenhouse gas emissions and many New England states have 100% renewable energy or clean energy mandates.	Thank you for the comment.
BOEM-2022-0045-0077	1	New England is perfectly positioned to seize the environmental, economic, and public health benefits of offshore wind power. While energy demand is high and new clean energy options are few, we are within reach of one of the strongest offshore wind resources in the world. The Bureau of Ocean Energy Management's swift and thorough review of Revolution Wind's Construction and Operations Plan is critical for us to stand up this clean energy solution in a timely and responsible manner. Offshore wind energy is in a unique position to address the unprecedented and intersecting environmental, public health, and economic crises that exacerbate racial and social injustices. We can transition away from fossil fuels that are concentrated in low-income and communities of color, and develop this renewable energy resource with attention to stakeholder input, improving access to public comment opportunities to ensure that impacts are properly evaluated. We can prioritize training a local workforce and people that have been the hardest hit by the COVID-19 pandemic, and revitalize U.S. manufacturing to maximize economic benefits from this industry. And we can protect wildlife and ecosystems while we do it, requiring the use of best management practices informed by the latest science. We can do all of this – and we must. We have no time to lose in advancing clean energy solutions that rise to the environmental, economic, and public health crises our nation faces. It's time to chart another course, and make responsibly developed offshore wind power a pillar of our energy future. I urge you to act expediently and with thorough care to complete the environmental review of Rhode Island and Connecticut's Revolution Wind project.	Thank you for the comment.
BOEM-2022-0045-0068	1	After a careful review of the Draft Environmental Impact Statement, I am confident that completion of this important offshore wind farm will have be a substantial net positive for our country, particularly as it relates to expanding our nation's energy infrastructure, diversifying our electricity portfolio, and growing our economy. As your office moves forward, it is my hope that you reach the same conclusion GAIN has: that completion of this project is in the best interest of the country and deserves approval. The GAIN coalition represents a diverse coalition of businesses, trade associations, and labor groups that share a vested interest in creating jobs and strengthening our nation's economy through infrastructure development. Investing in our nation's infrastructure creates both long and short-term benefits for our communities, and keeps our economy competitive in an increasingly global marketplace. It provides good paying jobs, an additional tax base to local schools and municipal services, increased safety for the movement of goods and people across the country and added revenues for small businesses throughout the supply chain. Our country continues to deal with stubbornly high inflation, driven in large part due to surging energy and electricity costs. The last several months have shown the need for the United States to increase the supply of energy infrastructure, particularly when it comes to production capacity. Supply imbalances, caused by a combination of foreign conflict,	Thank you for the comment.

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		government policy misfires, supply chain disruptions, and lingering effects from Covid-19 have created a volatile period in energy commodity prices. Consequently, American families are paying considerably more for the electricity that powers there home. Nevertheless, private sector businesses need long-term certainty as they deploy their capital into energy infrastructure projects. Government plays a critical role in this. When businesses make decisions on where to put their own capital, or from investors, they need signals from Washington that reflect the importance of energy production, encourage industry investment, and ensure the supply of affordable and reliable energy. This consistent approach will help spur further investment into all types of energy production, whether it be oil and gas, or other renewable sources like solar, nuclear, and wind. Specific to your agency is how we scale the utilization of energy production that lies just off the coasts. Offshore wind energy must be part of an all-of-the-above strategy for America's energy future, and we must deploy it expeditiously. This power source is already widely utilized across developed parts of the world, but only a handful of turbines are operational here in the United States, like the Block Island Wind Farm and the Coastal Virginia Offshore Wind Farm, for example. Despite the slow start, due largely to government policies, the private sector has dedicated significant capital into the research and development of renewables in order to expand the slate of resources that can reliably and affordably power our electricity grid. That is why the completion of Revolution Wind is so important. This project will have the capacity to generate up to 704 Megawatts of clean power between Rhode Island and Connecticut. Importantly, private sector investments into offshore wind will help to meet both Rhode Island's recently signed law to acquire 100 percent of its electricity from renewable sources by 2033 and Connecticut's goal of reaching zero carbon emissions by 2040. On a broader level, Revolution Wind will help us meet President Biden's national goal of 30 GW of offshore wind power by 2030. Rhode Island has been on the cutting edge of offshore wind, as it is home to country's very first offshore wind farm at Block Island. While that project is relatively small, it showcased the viability of this power source. Now, following in the footsteps of the Block Island Wind Farm, Revolution Wind will be the first large-scale commercial project for the Ocean State. Once approved and operational in 2025, it will generate enough clean energy to power more than 350,000 Connecticut and Rhode Island homes. Importantly, offshore wind is reliable and far less intermittent compared to wind onshore, making this electricity more reliable and dependable. The addition of offshore wind power to the Ocean State's energy grid will ensure ratepayers and customers benefit from a diverse set of resource types, which would be a departure from its current generation capabilities. According to the Energy Information Administration, Rhode Island generates nearly 90 percent of its electricity from natural gas, the largest share of any state in the country. BOEM's approval of Revolution Wind is critical. In the Draft Environmental Impact Statement, your agency, the "No Action Alternative" is not feasible. Under the No Action Alternative, the benefits of the project would not happen, benefits which include cleaner air quality due to the reduction of greenhouse gasses, local job creation, tax revenues and more. The industry's growth also provides us a rare opportunity to revitalize manufacturing and port communities throughout the nation. Revolution Wind, a joint partnership between Orsted and Eversource, is investing heavily in Rhode Island and Connecticut, to which the developers have committed to spending hundreds of millions of dollars and creating thousands of jobs in the process. For example, they are spending $77.5 million of a $157 public-private partnership with the State of Connecticut and Connecticut Port Authority to re-develop New London State Pier into a heavy-lift cargo and deep-water port and $40 million in improvements to Rhode Island's port infrastructure. At the same time, the cost of the project is estimated to total $1.5 billion – a sizable investment. The investments and facilities that the project supports will support job creation. The project will create approximately 460 construction jobs for the redevelopment of State Pier, new supply chain jobs, and an estimated 1,200 direct construction jobs and dozens of permanent operations and maintenance jobs in Connecticut and Rhode Island combined Under the No Action Alternative, the benefits of the project would not happen, including cleaner air quality due to the reduction of greenhouse gasses, local job creation, tax revenues and more. From my perspective, this is a scenario that should not occur. Simply put, Revolution Wind delivers for Rhode Island and Connecticut. I again thank BOEM and its staff for their diligence in preparing the DEIS, and for soliciting public comments. In conclusion, the GAIN Coalition fully supports Revolution Wind for the aforementioned reasons. I am confident it will be a defining standard for the next generation of energy generation, and in helping our country become energy independent.	

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BOEM-2022-0045-0067	1	I proudly served for over two decades in the US Army Corps of Engineers (USACE), where I was privileged to reach the title of District Commander (Three times). In my role in the USACE, Energy infrastructure projects help the United States to maintain energy independence, as well as create thousands of jobs while producing affordable energy for American homes. For these reasons, I am pleased to comment in favor of Revolution Wind, a proposed offshore wind project that is currently undergoing review through an environmental impact statement by BOEM. The project will be located 15 miles off the coast of Rhode Island and 32 miles off the coast of Connecticut. Once completed, Revolution Wind will produce 704 MW of clean, renewable energy - enough to power 350,000 Connecticut and Rhode Island homes and eliminate over one million metric tons of carbon pollution during its projected 25-year lifespan. This year especially, everyday Americans were plagued with unstable energy prices, and with OPEC's recent decision to cut oil production by two million barrels a day, high energy prices will be a reality for many going into the winter. That is why it is crucial that we continue to fund and approve projects like Revolution Wind, to enable the U.S. to become more energy independent and secure, and not having to rely on foreign sources. Additionally, to meet our country's ever growing energy needs, we need to start focusing on an all of the above approach and realize the incredible potential of adding more renewables to our energy portfolio. As it stands, the U.S.'s offshore wind presence is meager compared to that of other developed nations. The completion of Revolution Wind will showcase the massive energy generating and job creating potential that offshore wind has to offer, hopefully inspiring other states to consider offshore wind to power their homes and businesses. Its construction will also be good for the economy, as it is projected to create 1,200 good-paying jobs during its construction phase alone. Additionally, the project will generate thousands of other indirect jobs by boosting the local economies of its host communities, and through third party businesses that will need to be hired as part of the construction and review process. If that wasn't enough, Revolution Wind has additionally committed over $70 million to a publicprivate partnership with the State of Connecticut to redevelop the New London State Pier, a project that is expected to create 460 construction jobs. Additionally, the project will invest $40 million towards improving Rhode Island's port infrastructure, which will directly create construction jobs along with indirect jobs by boosting the port areas' respective economies. I hope that this comment has made clear the wide and diverse range of benefits that the Revolution Wind project will bring to not just the states of Connecticut and Rhode Island, but also the US as a whole by strengthening our energy portfolio. I strongly encourage BOEM to not pursue the No Action Alternative, and to allow this project to proceed in a timely fashion.	Thank you for the comment.
BOEM-2022-0045-0066	1	Americans across the country struggled this year to keep up with record levels of inflation and the sky-high cost of energy. The current reality is that now more than ever, the United States needs to double down on domestic energy production and diversify the sources of power that feed into the energy grid. To meet such a goal, it is crucial that we promote the development of all types of energy sources, whether it be fossil fuels or renewable power. Both will be sure to play a key role in meeting America's future energy needs. I am writing to you in support of Revolution Wind, an offshore wind farm that will be constructed off the coasts of Rhode Island and Connecticut. The project - which is currently in its pre-development phase, having its Construction & Operations Plan (COP) and Draft Environmental Impact Statement (DEIS) reviewed by the Bureau of Ocean Energy Management (BOEM) - is set to be operational in 2025. Projects like Revolution Wind showcase the untapped potential of offshore wind to provide cost-effective power to American homes while supporting the local economy and creating jobs. Once its construction plans are approved by BOEM, Revolution will be developed 15 miles off the coast of Rhode Island and 32 miles southeast of the coast of Connecticut. Positioning both these states as offshore wind leaders, Revolution Wind is projected to deploy 704 MW of offshore wind-generated energy, which will be enough to power 350,000 Connecticut and Rhode Island homes. This energy will be produced right close geographically to the consumers. As for reliability, offshore wind turbines are capable of generating energy nearly twenty-four hours a day. At the same time, this project, like other wind projects, would rely on a form of baseload power, such as coal, oil, gas, reserving a role for fossil fuels. As former Chairman of the Oklahoma Corporation Commission - the state's regulator for oil and gas drilling, utilities and telecommunications companies - my expertise lies in energy and utility pricing related matters. As such, it is my opinion that Revolution Wind will meet the need for competitively priced renewable energy and additional capacity, aligning with energy demands and goals respective to Connecticut, Rhode Island, and the region as a whole. In addition to meeting both Rhode Island and Connecticut's renewable energy goals, the Revolution Wind project will bring an economic boost to its host communities and states. Revolution Wind is committed to investing nearly $160 million into the Connecticut economy, which will go towards redeveloping the New London State Pier and creating hundreds of good paying construction jobs. The project will additionally invest $40 million into improving Rhode Island's port infrastructure,	Thank you for the comment.

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		bringing jobs and further economic activity to the waterfront area by supporting local businesses. Development of Revolution Wind itself is estimated to create 1,200 union-backed jobs in Rhode Island and Connecticut during its construction phase, along with dozens of competitive, permanent jobs in its operations and maintenance facilities. Thousands of additional indirect jobs will be generated through partner companies that support the project - such as wildlife monitoring companies - as well as boosting profits for local businesses that operate in the port areas. I am pleased to offer my support of the continued development of the Revolution Wind offshore wind farm, and encourage BOEM to not pursue the No Action Alternative in response to the DEIS. Americans need an “all of the above” solution to the global energy crisis, and Revolution Wind has the potential to pave the way for future creative energy solutions such as offshore wind, while creating good paying, reliable jobs.	
BOEM-2022-0045-0029	1	With climate change due to the burning of fossil fuel, development of wind power is a "must" for the benefit of the next generation. Complaints about the visual impact of the wind farm are self centered and the alleged potential impact to fisheries without scientific merit.	Thank you for the comment.
BOEM-2022-0045-0030	1	I am the President of the Southeastern Wind Coalition, a non-profit with the goal of bringing economic benefit to industry, utilities, ratepayers, and residents of the Southeast through wind energy. I write to you today in support of the Revolution Wind project. We are presented the opportunity here to shape the United States' burgeoning offshore wind industry in a way that will benefit both communities and the environment for decades to come. In the wind energy industry, we have the unique and essential ability to replace outdated energy infrastructure with clean energy production. In replacing such systems, many of which have historically contributed to environmental degradation and injustice, we bring jobs to communities which often are disproportionately negatively affected by carbon intensive energy production. Rhode Island has already pioneered the entry of offshore wind in the United States with the Block Island wind project. A project which has proved popular amongst the community and has eliminated the Island's reliance on highly pollutive diesel fuel. Rhode Island stands to make further gains towards a carbon neutral energy system with the supplement of wind energy in the Revolution Wind project. We are positioned to create the kind of green economy that can save our planet, produce well paying jobs for the local economy, and reduce undue burdens placed on communities in proximity to antiquated, carbon intensive energy production. The Revolution Wind project is a step significant towards a better Rhode Island for generations to come. There are so few opportunities to get in on the ground floor of economic and environmental revolution. We have one here and it is up to us to seize it. To establish new supply lines. To build new relationships. To create new markets. Having worked closely with representatives from 0rsted and Eversource for 4 years we can attest to the high quality of their corporate citizenship. In closing, as president of the Southeastern Wind Coalition, I believe Revolution Wind will provide a future not just for our industry, but for the country and the planet as a whole. I ask you to approve the permitting for Revolution Wind.	Thank you for the comment.
BOEM-2022-0045-0033	1	The Northeast Clean Energy Council (“NECEC”) appreciates the opportunity to provide comments to the Bureau of Ocean Energy Management (“BOEM”) on the Revolution Wind project (the “Project”) proposed by Ørsted and Eversource. The Project presents a crucial opportunity to the states of Connecticut and Rhode Island to achieve their increasingly ambitious renewable energy goals,1 but also welcomes an opportunity for major economic development benefits and a more reliable, dynamic electric grid. Thus, NECEC urges BOEM to review the draft environmental impact statement (“DEIS”) within this context and to adhere to the published schedule for the Revolution Wind project as it moves through the EIS process. NECEC leads the just, equitable, and rapid transition to a clean energy future and a diverse climate economy. It is the only organization in the Northeast that covers all clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development. Our members span the broad spectrum of the clean energy industry, including clean transportation, energy efficiency, wind, solar, energy storage, microgrids, fuel cells, and advanced and “smart” technologies. The expansion of offshore wind capacity is essential for realizing greenhouse gas (“GHG”) emission reduction commitments across the region and around the world. Today, offshore wind provides a major opportunity for emissions reductions due to high capacity factors, technological advancements, and economies of scale. The 704MW Project will deliver enough clean, renewable energy to power more than 350,000 homes across both states, keeping Rhode Island on track to meet its goal of 100% renewable energy by 2033 and helping Connecticut achieve its decarbonization commitment.	Thank you for the comment.

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		NECEC supports the development of offshore wind to reduce GHG emissions in the region and improve local air quality by either displacing existing fossil fuel generation or preventing the development of new fossil plants. In the Northeast, electric sector emissions have already dropped substantially since 1990, largely due to cheap and abundant natural gas. It must be noted, however, that our over-reliance on natural gas generation has caused supply and cost challenges in New England, limits further emissions reductions, and carries significant methane leakage risks. Methane leakage poses a significant concern due to its GHG potency and prevalence of use.2 For these reasons, we will have to dramatically reduce and eventually phase out natural gas generation over the coming decades. Revolution Wind will enable this transition by providing emission free electricity,3 lowering the local reliance on natural gas generation. Moreover, states are seeing major hikes in electricity supply rates due to an over-dependence on fossil fuel generation, most notably natural gas. Rhode Island is facing over 50% price increase this winter. Via the Revolution Wind project, these states will be able to diversify their electricity portfolio. allowing them to be less susceptible to global market shifts in the future and contributing more stable electric costs. Lastly, the Project also presents a tremendous opportunity for economic development and job creation. To support the Project, Orsted and Eversource are proposing over $115 million to support port infrastructure redevelopment in both states, along with significant commitments to offshore wind education, supply chain, and workforce development. The Revolution Wind project is estimated to generate 1,200 jobs across both states during its construction phase and dozens of well-paying, fulltime operations and maintenance positions overseeing and servicing the wind farm. Thousands of indirect and induced jobs are also anticipated, ranging from local suppliers constructing crew transfer vessels and monitoring wildlife and the seabed around the project, to local businesses who provide goods and services within the vicinity of the ports in which Ørsted and Eversource will operate. NECEC understands and respects the need for BOEM to conduct a thorough EIS process but urges BOEM to keep to its published schedule for Revolution Wind. The approval of the Revolution Wind project will help create a cleaner, greener, and more sustainable Rhode Island and Connecticut. We appreciate the opportunity to provide these written comments. Thank you and please contact us with any questions.	
BOEM-2022-0045-0034	1	Please approve as much offshore wind energy as possible - our climate, economy, energy supply, national security and public health desperately need it!	Thank you for the comment.
BOEM-2022-0045-0035	1	On behalf of the Greater Boston Chamber of Commerce and our 1,300 members, I write in support of the Revolution Wind Energy Project, which will help support the national goal of generating 30 gigawatts of electricity from offshore wind power by 2030. The Chamber strongly supports development of the offshore wind industry to access clean, reliable, and renewable sources of energy for Massachusetts and the rest of New England. Offshore wind energy is essential to achieving greenhouse gas emissions reductions, diversifying our region's electric generating resources, and helping to curb the impacts of climate change. The development of this industry will also create jobs and stabilize energy prices, providing economic benefits to our region as well. New England states are well positioned to lead this national effort based on access to the relatively shallow waters of the Continental Shelf, which provides the ability to install wind power turbines efficiently from our ports. Revolution Wind will be located 12 miles off Martha's Vineyard, 15 miles off the Rhode Island coast, and 32 miles off the Connecticut coast and will deliver clean energy to 350,000 homes annually in Rhode Island and Connecticut. While the project does not provide power directly to Massachusetts, the regional success of the offshore wind industry is essential to achieving climate goals and providing the clean power all of New England needs to ensure reliability and stability of our electric grid. Massachusetts, Connecticut, and Rhode Island have all made commitments to carbon-free electric grids and to offshore wind power. Working together, these commitments represent significant efforts to fight climate change with a regional approach. In August, Massachusetts Governor Charlie Baker signed An Act driving clean energy and offshore wind, which included specific offshore wind power provisions as part of a broad effort to address environmental challenges. The Legislation reaffirmed the state's commitment to the offshore wind industry, including the development of 10GW of offshore wind generating resources by 2035. Massachusetts was the first state in the nation to pass comprehensive offshore wind legislation and helped launch the industry in the United States. In May, Connecticut Governor Ned Lamont signed into law the state's commitment to a carbon-free electric grid by 2040, codifying an Executive Order he issued in 2019.	Thank you for the comment.

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		In June, Rhode Island Governor Daniel McKee signed legislation requiring that 100 percent of Rhode Island's electricity be offset by the production of renewable energy sources by 2033. This is the most aggressive renewable energy standard in the nation. These individual efforts to pursue clean, sustainable, offshore wind power will contribute to the shared New England power grid, meaning each state can help its neighbors attain carbon-free electricity goals. Additionally, as recent global events have made clear, domestic, sustainable energy production is also vital to our nation's energy security. Revolution Wind is at the forefront of the national commitment to sustainable, clean energy production, and by virtue of its connection to the New England power grid, the entire region can be proud to support this nation-leading project to fight climate change and advance energy security.	
BOEM-2022-0045-0036	1	I am writing to you today in support of the Revolution Wind project. As America grows its offshore wind industry, we have the opportunity to shape the future of the energy market in the United States. BlastOne International is a Columbus OH based company who builds facilities and equipment for surface preparation and painting on large steel structures. The wind energy (especially offshore!) has been a significant part of our business, and we are proud to be building the first monopile blast and paint facility for EEW in Paulsboro NJ! We have the unique opportunity to build the future of the energy industry in our country. We are uniquely positioned to build the future of the green-energy industry in the US through the creation of lucrative job opportunities that will be sought after by those looking to build their American dream, create families, and purchase homes. We have the opportunity to create a green economy that will save our planet and deliver the next generation a cleaner environment and stronger future. It is a rare opportunity to get in on the ground floor of an economic revolution. This is our window to impact the future through the creation of new relationships, supply lines, and new markets. We are proud to be a part of this revolution. BOEM provided six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider – No Action. No Action could hinder further development of the U.S. offshore wind domestic supply chain. The supply chain needs clarity and confidence that projects can move forward, and in a timely manner. We need Revolution Wind to be built. Revolution Wind is good for the economy, environment, and our nation's energy security. I urge you to approve this project on its current timeline and keep our industry working.	Thank you for the comment.
BOEM-2022-0045-0044	1	Climate change is the greatest challenge of our time and our future depends on fighting it head-on. We see these impacts directly along our coast. Rising sea levels, stronger storms, impacts to wildlife, coastal erosion – and the crisis is only getting worse. There is momentum here in Rhode Island and across the country to achieve a clean energy future. It's clear that offshore wind must be a part of that solution. The Revolution Wind project being developed jointly by Orsted and Eversource, represents a cleaner energy future for Rhode Island, ensuring that offshore wind energy, wildlife and our natural resources thrive together. Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the East Coast. As we begin recovering from the unprecedented social and economic impact of the COVID-19 pandemic, the approval of the Revolution Wind project, developed by Orsted and Eversource, will help create a cleaner, greener, more sustainable Rhode Island. The transition to clean energy is critical as Rhode Island continues to focus on bringing more clean, carbon-free sources to the region. Rhode Island has the most ambitious clean energy goal in the nation: 100 percent renewable energy by 2030. Revolution Wind is critical in helping Rhode Island meet that goal. BOEM provided six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider – No Action. No Action would harm our state's efforts to address climate change, increase our reliance on fossil fuels, and decrease the environmental benefits that will be realized by this project. I understand the environmental concerns that offshore wind presents to some concerned with the well-being of our natural resources. Ongoing engagement, education and outreach, combined with plans to avoid and mitigate any disturbances are part of the process and I have full confidence that Revolution Wind will build a project that we all can be proud of. I urge BOEM to stick to its published schedule for Revolution Wind and make this project a reality.	Thank you for the comment.
BOEM-2022-0045-0045	1	On behalf of the working men and women of the International Union of Painters and Allied Trades District Council 11 (IUPAT DC 11) I am writing in support of the Revolution Wind farm project. IUPAT DC 11 represents two thousand plus finishing trades workers across Rhode Island, Connecticut, and Massachusetts. The experience of our Painting and Industrial Coating Application Specialists working on the Block Island Wind farm project was fundamentally life changing. Several of our members were able to buy houses from the work on the five turbines of	Thank you for the comment.

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		Deep-Water Wind. The opportunity that this project represents to the hard-working men and women of the IUPAT is without hyperbole or exaggeration a fundamentally transformational project. We see a need to engage in a "just transition" of our energy production in this country as we face the existential crisis of rapidly advancing climate change. This project allows literally that, a chance for workers who are highly trained and skilled to reapply their skillset from fossil fuel projects to a renewable energy project. It is our expectation that this project will create a large number of jobs for the industrial painters of the IUPAT, not only in the installation process, but also in the manufacturing supply chain and in the preventative maintenance work once the turbines are in place. Our organization spends a voluminous amount of time, energy and resources to meet the needs of the industry when it comes to corrosion prevention. We work with industry partners like Ørsted and Eversource, and train our members to meet third party engineering standards with industry leaders like AMPP (formerly NACE and SSPC) We as a country stand on the cusp of a massive chance to get things right for working families, our country, and the world as a whole. For all of the reasons that I have detailed, I ask that you please consider with judicious deliberation, but also a sense of urgency the rapid permitting of the Revolution Wind project. Thank you very much for your time and attention to this matter, and please do not hesitate to contact the undersigned if you have any questions.	
BOEM-2022-0045-0048	1	I write to express my deep appreciation to the dedicated staff at the Bureau of Ocean Energy Management for releasing its Draft Environmental Impact Statement (DEIS) for Revolution Wind, a major offshore wind energy project off the coasts of Rhode Island and Connecticut. I believe that completion of this venture is critical for the United States to meet its renewable energy goals, create jobs, and make our country more energy secure. With these factors in mind, I am pleased to comment in favor of Revolution Wind. For the past several decades, American policymakers at all levels have looked for methods to combat climate change and diversify our country's energy portfolio. As a former Representative of Maryland's 4th Congressional District, I was proud to champion multiple pieces of legislation to expand the utilization of renewable energy, which is crucial to the future of our nation. During my tenure in Congress, I was privileged to serve on the House Energy and Commerce Committee, as chairman of the Subcommittee on Environment and Hazardous Materials, and as a member of the Subcommittee on Energy and Air Quality. Through this position, I played an integral role in crafting and passing the landmark "Energy Policy Act of 2005," a bipartisan bill that provided much needed clarity and certainty to America's nascent offshore wind industry. Working across party lines, this law grants the Department of the Interior, through your agency, jurisdiction over offshore wind projects and establishes a process for environmental review of proposed offshore wind projects. It is from this perspective that I write in favor of Revolution Wind. Already, our country lags behind other developed countries when it comes to the deployment of offshore wind, and this cutting edge technology will create American jobs, harness an infinite supply of American energy, lower carbon emissions, and reduce our reliance on energy from foreign countries. As a result, I am confident that this project will help Connecticut and Rhode Island to reduce their reliance on fossil fuels while providing clean and reliable energy, employment opportunities, and supply chain improvements in the surrounding counties, across the northeast, and beyond. Developed through private sector investment, Revolution Wind will increase our capacity of clean energy production and help us meet President Biden's national goal of 30 GW of offshore wind energy by 2030. Though this project will be 15 miles of the coast of Rhode Island and 32 miles off the coast of Connecticut, its impact will be felt immensely. Capable of producing up to 704 MW of clean energy, it will be able to reliably power about 350,000 homes per day – the equivalent of removing nearly 150,000 cars from the road. This additional power generation will expand the supply of electricity, which will ensure we have the ability to meet future demands and put downward pressure on prices. The pre-fabrication, installation, and maintenance of this project will also greatly generate economic activity by providing job opportunities and generating indirect economic activity from suppliers and other businesses that support activity along the northeastern coast. Together with Eversource, Revolution Wind's developer Orsted has already committed $77.5 million of a $157 public-private partnership to redevelop the New London State Pier in Connecticut - a project that is estimated to create 460 construction jobs. Orsted and Eversource have pledged to invest an additional $40 million to improve Rhode Island's port infrastructure. Development of Revolution Wind itself is projected to create 1,200 direct construction jobs, along with dozens of permanent operations and maintenance jobs in both Connecticut and Rhode Island. In conclusion, I strongly support the development of Revolution Wind. Our country will benefit greatly from the expansion of this important infrastructure across the eastern United States over the coming years, including in my home state of Maryland. Thank you for your consideration of these comments and please do not hesitate to contact me if you have any questions.	Thank you for the comment.

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BOEM-2022-0045-0049	1	Becoming energy independent is fundamental to our nation's long-term security. In order to achieve such an outcome it is important that the federal government allow and promote a wide array of sources, whether they come from renewables or fossil fuels. Thankfully, the United States has a capacity to leverage these domestic sources of energy. Pertinent to your agency is the expansion of offshore wind energy, as you know, growing yet still underutilized source of power that holds great potential for our nation's energy future. For the reasons outlined below, I am pleased to comment in favor of Revolution Wind, an important project currently undergoing federal environmental review by BOEM. I am confident that the final approval and construction of Revolution Wind will help our country become more energy secure and reduce our dependence on foreign sources of energy. As a retired US Army General officer with deep and current experience in national security challenges, I know firsthand how important domestic energy production is to the security of our nation. As today's geopolitical turmoil has shown, the United States must focus on building an energy industry that will reduce our reliance on foreign sources. The more we rely on foreign sources to power our electric grid, the more vulnerable we are to energy price volatility and shortages. The Draft Environmental Impact Statement (DEIS) is an important tool to ensure major projects best serve the environment, the economy, and the local community. I understand that BOEM provided six alternatives for further review. Of those six alternatives, there is one obvious "throw away," the No Action Alternative. It cannot be overstated that Revolution Wind must be built. It is critical that the federal government pursue an "all-of-the-above" agenda to ensure developers of clean energy technologies and conventional energy sources can succeed. A cornerstone of this federal energy strategy must include offshore wind. It should be a priority for the United States to diversify our energy sector. With only a handful of offshore wind turbines currently in operation, it is now more important than ever that we expand this new and exciting industry into something that can adequately and reliably power our grid. So while our country does have many projects already in the pipeline to be constructed, our government must recommit to ensuring these projects get completed, and Revolution Wind is a crucial step in that process. Expanding offshore wind energy through private sector investment will promote energy independence in the long term. Revolution Wind will increase the generation capacity of clean energy by capturing the infinite supply of wind off the coast. According to estimates, this project will be capable of producing up to 704 MW of clean energy, enough to reliably power a combined 350,000 Connecticut and Rhode Island homes. This additional power generation will expand the supply of electricity to meet future demands and keep prices in check. In addition to diversifying our energy grid with green energy and bolstering our national security interests, I also know that this project will help the economic and financial security of the area. Revolution Wind is estimated to generate 1,200 jobs in Rhode Island and Connecticut during its construction phase, creating many permanent jobs as well. Further, the project is expected to generate thousands of other indirect and downstream employment opportunities that support the project. Altogether, it's estimated that the project will generate hundreds of millions of dollars worth of economic benefits for both Rhode Island and Connecticut. In conclusion, I strongly support the development of Revolution Wind. Our country will benefit greatly from the expansion of this important infrastructure to make the United States more energy secure. I thank the Bureau of Ocean Energy Management for holding this comment period and for considering this comment and many others.	Thank you for the comment.
BOEM-2022-0045-0050	1	As a former Administrator of the Energy Information Administration (EIA), I am pleased to comment in favor of Revolution Wind, an offshore wind farm that is set to be developed off the coasts of Connecticut and Rhode Island. With over forty years of experience working in the energy industry, I recognize the great potential that Revolution Wind will have in equipping these two states with the tools needed to meet their future energy demands, along with the economic and societal benefits it will bring to the surrounding community. My tenure at the EIA was spent monitoring independent data, forecasts, and analyses related to energy production and consumption here in the US. While electricity generation has historically been dominated by the consumption of fossil fuels, renewable energy has experienced a significant jump over the past decade. Today, over twenty percent of U.S. electricity generation comes from renewable resources like wind, solar, and hydroelectric power; double what it was just a decade ago. I expect that growth to continue in the years ahead. I recognize that the United States needs an all-of-the-above approach to satisfying its diverse energy needs, which includes the expansion of renewable energy like offshore wind. In a report published in June, the my former agency further confirmed the benefits of offshore wind energy, finding that "offshore wind tends to operate at a higher capacity factor than	Thank you for the comment.

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		onshore wind because of stronger and less variable wind speeds", and "offshore wind can provide power to population centers in coastal areas, where electricity demand is high." Yet, the slate of offshore wind farms in the United States is limited, and most consumers are not aware of the broad potential that offshore wind technology has for providing power for entire communities. But I am confident that the Revolution Wind project, along with many other projects in development along the East Coast will help change the narrative by not only providing competitively priced renewable energy, but also a varied set of benefits to its host community. As the United States looks to expand its supply of power in the face of rising demand, offshore wind is the missing element that we have been looking for. Top US officials recognize this, including the Biden administration which announced a goal of deploying 30 GW of offshore wind energy by the year 2030. Meeting this goal to add 30 gigawatts of offshore wind generation capacity to the grid, will power about 21 million homes. Revolution Wind will be an essential part of achieving that milestone. Once operational in 2025, it will deliver 704 MW of clean energy: providing 304 MW to Connecticut and 400 MW to Rhode Island. That's enough electricity to power more than 350,000 Connecticut and Rhode Island homes. Utilizing the unlimited power of coastal wind aligns with goals established by the Ocean and Nutmeg states to significantly curb carbon emissions. The site will additionally bring good-paying, union supported, manufacturing and construction jobs to the community. Earlier this year, one of the developers of the project, Orsted, announced that all workers on this project, and all future projects, would leverage union-workers, representing a strong commitment to America's workers. Additionally, the project is spurring significant capital investment into underinvested communities, such as a $157 public-private partnership with the State of Connecticut and Connecticut Port Authority to re-develop New London State Pier into a heavy-lift cargo and deep-water port, creating 460 construction jobs for the redevelopment of State Pier. There's also $40 million slated for improvements to Rhode Island's port infrastructure. At the same time actual installation of Revolution Wind is set to cost roughly $1.5 billion. These funds will go towards supporting workers and businesses across New England, and will create an estimated 1,200 direct construction jobs and dozens of permanent operations and maintenance jobs in Connecticut and Rhode Island. Thousands of other indirect or induced jobs also stand to be created through downstream economic benefits across the local economy. For all the above reasons, I am honored to comment in favor of the approval of Revolution Wind. I thank BOEM and its dedicated staff for managing and overseeing this comment period and for accepting my input on this considerable achievement for improving energy efficiency here in the US. I am proud to be able to support a project that create thousands of jobs, reduce carbon emissions, and put downward pressure on energy prices in the years ahead. Thank you again to BOEM for holding this comment period and taking the time to consider my own comment on this matter.	
BOEM-2022-0045-0051	1	I am a Rhode Island resident writing in support of the approval of the proposed Revolution Wind Offshore Wind Farm Project. I believe that projects like this one are critical to our ability to produce energy with low carbon footprints that will help reduce climate change. I understand that there will be some negative impacts related to this project, including disruption of viewsheds as well as some potential disruption of current fisheries operations. The proposed plan seems to take reasonable steps to attempt to ameliorate fisheries impacts. However, I think it is important to recognize that development of any energy source will have some type of negative impacts. This project seems vastly preferable to me over alternative sources of energy that could include things like plants that use fossil fuels or large scale solar farms that would replace existing habitats on land. Additionally, fisheries industries are already being impacted negatively by climate change, so helping to reduce future climate change through use of less carbon-intensive energy will help fisheries (though admittedly in a way that is difficult to quantify directly). One other key point is that Rhode Island does not generate much of its own energy, and suffers in energy markets as a result. Utility costs in Rhode Island are quite high, and this project has the potential to benefit many residents by providing clean energy at a reasonable cost into the future. Ultimately, this project will also help contribute to a worldwide effort to develop green energy sources that mitigate climate change impacts over the next century, benefiting humans and ecosystems worldwide. In short, this project seems to provide a large benefit for a fairly low cost that will extend for decades.	Thank you for the comment.
BOEM-2022-0045-0057	1	On behalf of Nouveau Consulting, I submit the following comments for the record in the matter of Revolution Wind for your agency's consideration. As a former regulator and national energy infrastructure expert, I write to lend my support for Revolution Wind, an in-development offshore wind farm that, once complete, will provide the states of Connecticut and Rhode Island with renewable power. We thank the Bureau of Ocean Energy Management (BOEM) for its comprehensive	Thank you for the comment.

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		Draft Environmental Impact Statement (DEIS. Knowing first-hand how intensive federal reviews can be, this 2,000-page plus DEIS is a testament to the thorough work conducted by agency staff. After reviewing the DEIS, we believe there is a purpose and a need for this project to move forward as proposed. The alternatives can be successfully addressed, including a no-action alternative raised through the scoping meetings and other comments. Rhode Island has set one of the country's most ambitious clean energy goals: to be powered by 100% renewables by 2030. Connecticut has also established an ambitious goal: to have 100% of the state's electricity generated from zero carbon sources by 2040. Completing Revolution Wind will be crucial to these states reaching their respective goals; this project will help meet energy diversification and baseline energy goals while simultaneously reducing carbon emissions. As the country trends toward energy independence, an "all the approach" to our energy mix must rely on renewable projects like this one. Aside from the long-term benefits, Revolution Wind is estimated to generate 1,200 good-paying union jobs in Rhode Island and Connecticut during construction. Once construction is completed, additional permanent jobs will be created for the project's operation and maintenance. There are also sure to be indirect jobs created by contractors and sub-contractors. Additionally, Revolution Wind's developers – Orsted and Eversource - will invest millions of dollars into Connecticut and Rhode Island local economies. It is also noteworthy these developers currently maintain some of the largest offshore wind farms in the world. It is noteworthy that BOEM considered 18 alternatives and carried forward 6 for further analysis in the DEIS. While the agency has not yet taken a position on the alternatives, I appreciate the time and attention taken to date. In establishing an energy policy that is reliable, affordable, and diversified, regulators and agencies must take a holistic "all-of-the-above" approach to electric generation and related infrastructure. Offshore wind has proven its ability as a renewable to consistently generate electricity that is both consistent and economically competitive with other forms of generation—agenda when it comes to bringing new energy infrastructure projects online. A large piece of this energy strategy should include offshore wind, an underutilized resource. In March of 2021, the Department of Energy (DOE), Department of the Interior (DOI), and Department of Commerce (DOC) announced a goal to deploy approximately 30GW by 2030, which should power approximately 10 million American homes.1 To meet the current and even larger 2050 challenge, significant new offshore wind farms must be permitted and built. The scale of this challenge is both exciting and daunting. In response to those suggesting the costs of scaling wind power are excessive, data indicates the cost per kilowatt hour has decreased by 24-50% since 2014.2 Further, wind turbine efficiencies are increasing, and Advanced optimization technology of turbine design is crucial to further success. Given the innovation continuing to occur within the industry, we can better understand the benefits of offshore wind generation within the ecosystem compared to onshore facilities.3 Thus, the long-term benefits of this project are evident: reduction of GHG emissions from traditional generation fuel sources, new economic development through investment and job creation, and positive impact on grid resilience, thereby promoting domestic energy security. Thank you for your time and the opportunity to comment on the matter.	
BOEM-2022-0045-0117	1	Hi, my name is Amanda Barker. That's A-M-A-N-D-A, B-A-R-K-E-R. I live in Cranston, Rhode Island. And I'm a Policy Associate with Green Energy Consumers Alliance. We are a nonprofit working on decarbonizing our electricity, transportation, and building sectors. And our organization wants to emphasize that offshore wind is the biggest lever that we can pull to reduce our greenhouse gas emissions, address the climate crisis, and meet our energy needs. Revolution Wind, alone, will produce enough clean energy to power more than 350,000 homes and displace more than 1 million metric tons of carbon pollution. This is especially critical to Rhode Island, as greenhouse gas emission deductions are mandated under the Act on Climate. The State is also mandated to transition to 100-percent renewable energy by 2033. And the 400 megawatts that Rhode Island could procure from Revolution Wind is crucial in achieving these mandates. We want to emphasize that the no action Alternative should not be considered. Without the expansion of offshore wind, fossil-fuel energy facilities will either come online or be kept online to meet our future energy demands. This would threaten their reliability and increase pollution, energy costs, and the climate crisis. I want to be clear, though, that our organization is not advocating for you to rush this. We want a thorough review to limit environmental impacts, ensure local economic benefits, and social equity. But we urge you to expedite the process as much as responsible development will allow. The greenhouse gas emissions' reductions from this project are far too great to not proceed swiftly. Thank you for the opportunity to comment	Thank you for the comment.
BOEM-2022-0045-0118	1	And I also appreciate the timely release of the DEIS for Revolution Wind, as it is a critical component of keeping our States and the region on track to meet our climate decarbonization goals. In particular, aligning with the Biden-Harris Administration's ambitious goals and the Justice 40 Initiative, this is truly a major milestone in the overall permitting process. So, keeping in mind that my testimony comes on behalf of the Audubon Society of Rhode Island and our work is	Thank you for the comment.

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		focused in Rhode Island, I will speak to how critical we think this project is to meeting the Act on Climate Goals. More specific and technical comments on the DEIS will be provided with our Partner Coalitions. But I would like to emphasize that, within the six Alternative proposals presented today, there is one that we would like to urge BOEM not to consider, which is no action or denial of this projection, because that would harm our State's efforts to address climate change, increase our reliance on fossil fuels, and decrease the environmental benefits that would be realized by this project. We recognize the urgency of the climate crisis and the recent IPCC Reports are telling us that the biggest threat posed to birds, wildlife, people, and all living things is climate change. So that's where we want to focus our energy and the type of Policies that we advocate for. In Rhode Island, we've made our commitment very clear to 100-percent renewable electricity by 2033, additional offshore wind procurement beyond Revolution Wind of up to 1,000 megawatts, and Labor Standards and renewable energy projects. And keeping in mind the 2021 Act on Climate Goals, we want to really ensure that our Electricity Sector is moving in the direction towards a clean energy economy, because we're going to rely on that Sector to decarbonize the other Sectors, including Transportation and the Building Sector. I want to go ahead and also reference the Block Island Offshore Wind Project, because, when we're thinking about mitigating the impacts to our natural resources, or avoiding them, I have whole confidence that, with ongoing engagements such as this, education and outreach, and with thorough planning to avoid environmental impacts that include research and monitoring of wildlife and habitat, that BOEM, Ørsted, and Eversource can truly succeed in making this a project we're proud of. In Rhode Island, the first offshore wind project is an example. The University of Rhode Island Surveys characterizing bird use offshore Rhode Island conducted under the Ocean SAMP Project, is something that we can reference. And it ensure that the Block Island Windfarm Project did not include the areas most critical for marine birds. So, lastly, in conclusion, when issuing the Final EIS, we would be looking to underscore that we see fundamental responsible devel (phonetic) -- what we foresee as being important for fundamentally building a project that's responsible is maximizing economic benefits through prioritizing the use of domestic content, and ensuring the creation of high-quality Union jobs that are equitable. And this is very important for Environment Justice Communities that are overburdened by pollution and should have a seat at the table and access to these career opportunities. Second, the importance of stringent protection of wildlife and habitat through every stage of a project development and peration. And third, as mentioned earlier, robust engagement of the community and Expert Stakeholders. So, in conclusion, Rhode Island sees the Revolution Project as essential for meeting our carbon emission reduction goals. And we urge you to move forward with the published schedule for Revolution Wind and keep this project on track to make it a reality.	
BOEM-2022-0045-0117	2	My name is Robert Groves, R-O-B-E-R-T, G-R-O-V-E-S. I'd like to thank BOEM for this opportunity to speak in support of Revolution Wind's Draft Environmental Impact Statement. I have been a Professional Mariner for 25 years. Fourteen of those years has been in tugboats here along the east coast. I have fished commercially in small-scale fishing. And I worked in the offshore supply industry down in the Gulf of Mexico, down in [indiscernible]. So I have been around a little bit and seen a few things. I strongly believe in a need to accelerate and advance renewable energy and offshore wind. I have solar panels on my roof, so I practice what I preach. But in particular, I strongly support the development and construction of Ørsted's Revolution Wind Project. The ocean environment is being affected by climate warming today. And I want to thank BOEM for doing the rigorous work of evaluating this offshore wind project. I grew up in Florida and it breaks my heart to see the pictures coming out of Fort Meyers. And it's only speeding up. We need to get offshore windmills spinning and creating massive amounts of clean energy as soon as possible. And I certainly appreciate the work that it's providing me and other Mariners, and my fishing cohorts. I've recently captained Sea Service vessels on the fishing vessel, New Horizon. I did 60 days out there, about 60 miles south of Nantucket. So I appreciate the safety and the professionalism that I see already. Fishermen are familiar with these waters and know how to communicate with other Fishermen. So our results are better than those conventional vessels, I think, in communicating with the Fishermen that we're interacting with out there. It is clear to me that Ørsted and other offshore wind companies have worked with real interest in reducing conflict. Scouting is just one example. Also, anyone who has fished has horror stories about one life-threatening situation after another. Health and safety are always a concern for guys on the water. And Offshore Wind Developers who are using Sea Services are applying and funding very high standards to boats and Crews for upgrades and training. This is a big deal. I know a lot of guys just can't make a living fishing fulltime anymore. I saw a lot of them coming out of New Bedford and Point Judith, having to come work on tugboats because the fishing just wasn't there. So, it's outstanding that the Fishermen are being included in this work. Revolution Wind is critical for jobs, for safety, and for our environment. Please keep this Proposal moving rapidly forward through its process. Thank you very much	Thank you for the comment.

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BOEM-2022-0045-0118	2	I'm picking up my comments right where Priscilla left off on the definition of responsible development, and that is something that we continue to evolve as a community of Advocates who are concerned around the existential threat of the climate crisis and the need to make really difficult decisions about the kinds of infrastructure that we will build, knowing that they will certainly have impacts on wildlife and habitat, and communities. And so, our definition of responsible development certainly entails avoiding, minimizing, mitigating, and monitoring impacts to wildlife, as well as robust Stakeholder engagement and the maximizing of local economic benefits, and high labor standards. So while I'm going to talk to you primarily about wildlife impacts right now, I just wanted to underscore that our definition of responsible sweeps far beyond that. So, what we see in Revolution Wind and in the Draft EIS is really an -- is the potential to meet the high bar that we set to support a project. We've been weighing in at every stage of this area of the ocean's consideration for offshore wind development. And we're thrilled to be here today at this critical milestone, and so close to, hopefully, a successful and positive Record of Decision. We recognize that building at least 704 megawatts here in this area is critical to meeting both State and Federal clean energy goals. And I want to underscore that we do want to see full buildout at a scale able to meet the commitments in all three PPAs attached to this Project Proposal. We will be submitting detailed written, technical comments. So I'm just going to very briefly summarize what we're grappling with, in relation to the specific Alternatives that we just heard about. So, we are strongly in favor of the considerations and concerns that were addressed in Alternatives C and E, though I recognize that, when you look at those both on a map together, they don't necessarily leave enough area for full buildout of the amount of generation needed in this area. So, want to be very clear that not being able to build a full 704 megawatts we would consider an unacceptable outcome. And yet, we have really -- we're really thrilled with the work that was done to develop Alternatives C and E. So what we're just encouraging is that we hope there's an outcome that both uplifts the concerns that were considered there perhaps with a combination -- some form of a combination of the two, perhaps also with Alternative F, if that can be helpful, or perhaps maybe not full application of either one of the areas. But, we do hope to see an out pin that can address our concerns that are intended to be addressed in -- or effectively addressed in each of those Alternatives, but that leaves enough area on the map to meet the full commitments in the Project Power Purchase Agreements.	Thank you for the comment.
BOEM-2022-0045-0115	3	Good afternoon. Thank you for um this opportunity to to comment. My name is J. D. Chesloff. I am the presidency of the Massachusetts business roundtable. Um, you know I do think it's interesting in the first three commenters. So far you have to start from the Environment community so from the Labor community it's with the business community which I think speaks to the the widespread support for the project just a little bit of background. The roundtable is a group of about nine years. So Ceos senior executives for employers across Massachusetts, including worse than ever Source. We do support the revolutionary revolution when projects strongly. We sent in some comments earlier. I would just summarize real quickly, really three reasons behind our support for the project. The first, obviously, that it helps to meet the state's very aggressive climate goals. And this is ah an item about climate sustainability that has risen to the top of Oh, the business community agenda! And we we agree with some of the comments before that offshore wind is just an important part of the solution to our climate. Goals Number two really is around competitiveness, and we hear over and over again from employers in Massachusetts about cost of living cost, of doing business and mobility impacting the competitiveness of the State. And I, you know, I. We view offshore wind and this project as part of a broader economic development strategy to build a new industry and create jobs in Massachusetts. I think it's a really important part of that puzzle. And then third around workforce. And I think the previous speaker from the Union Rhode Island talked about this as we build out this industry. And through this project we're going to need to have a pipeline of talent particularly diverse talent to make it all happen. I couldn't help but think that when Travis was going through the project really around the presentation, you could see all the opportunities for jobs and and workforce as as part of the implementation. And so, you know, we're encouraged very broadly by revolution wins positive Um, local, economic and community impact that are really looking to it as a model for what this industry is capable of in terms of providing job creation supply chain opportunities, workforce development, initiatives, environmental education for redevelopment, and more. So we're all really excited about and happy to lend our support and appreciate your consideration of our comments. Thank you.	Thank you for the comment.
BOEM-2022-0045-0117	3	Hello, everyone. Thank you for holding this meeting. Really appreciate it being in-person after several years of having these virtually. It's really nice to see people's faces. I'm Susannah Hatch, S-U-S-A-N-N-A-H, H-A-T-C-H. I'm a Director of Clean Energy Policy at the Environmental League of Massachusetts. I'm also the Regional Lead for a regional coalition called New England for Offshore Wind, which is a coalition of over 100 organizations: [indiscernible] advocacy organizations, Labor	Thank you for the comment.

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		Unions, businesses, and academic institutions. And I just saw a familiar face. We support an expeditious and thorough environmental review of the Revolution Wind Project. I want to just highlight a few things here. I'm going to keep it high-level. We will be submitting comments in writing, as well. But just want to highlight, as a number of other folks have, that this is the best opportunity for renewables that New England has. It's likely -- State analyses and independent analyses have shown that it's likely that offshore wind is going to provide nearly 50 percent of the region's electricity by 2050. So it's absolutely critical, as a source of energy, for the States to not only keep the lights on, but meet those climate goals and mandates that all six New England States have. The economic benefits are also astounding. Not only would it help minimize price spikes, which we are currently seeing both in New England and across the country due to the conflict in Ukraine. So that is going to be extremely helpful. But the economic benefits are also going to be quite impressive, including the number of jobs that we're going to see on our shores. I do want to flag the MOU between Ørsted and North America's Building Trades Unions. That's a really important MOU and one will help drive creation of high-quality jobs in the region. And it's also important that we are driving equitable access to economic opportunity, as well. We believe in responsible development of offshore wind and believe that offshore wind can be developed responsibility for wildlife and for habitat. We will be studying some of the Alternatives that were discussed tonight. But for now, I just want to highlight that we do not think that the no action Alternative is one that should be considered, because the result would be a continued overreliance on methane gas in our region, which is spiking energy crisis as well as causing pollution, particularly in our most vulnerable communities. So, I will stop there. And I'd just thank BOEM for the hard work that you all have been doing. We've been struggling to keep up with all the comment periods, and really appreciate the work. Thank you.	
BOEM-2022-0045-0118	3	I have been a Commercial Fisher my entire life. For generations, we have depended on the very waters for our livelihood where Ørsted Revolution Wind will be constructed. I'm here to add my support for the project's DEIS and to urge you to expedite its full approval. Like everyone who fishes, or transits, through these Lease areas, we are extremely concerned about offshore wind development. It just didn't seem like a very good idea. We were all very concerned that closing down these fishing grounds could crush our business. We also heard that these offshore green companies hailing from across the Atlantic didn't have any real interest in in our industry or working with us. The information that we were receiving was extremely concerning. Commercial fishing has grown far more challenging due to consolidation, quotas, and over regulations. It has become extremely difficult to make a living as a Commercial Fisherman. So my family and a group of Fishermen dug in to try to answer the questions for ourselves. Is offshore wind the final nail in our coffin, or can it be a new opportunity? Everyone is entitled to their own opinions and I am offering ours. We found that some of the information being put out there was just incorrect. The most important issue was that these windfarms in the U.S. will not be closed to fishing. And the turbines will be spaced to allow safe fishing and safe passage. They are spaced 1 nautical mile apart, leaving plenty of area to set gear and transit. The windfarms also provide a habitat for sea life. The fish like to congregate around them. We've found that many other things have proven to be less alarming than they sounded in the press. About 18 months ago, we qualified to become Vessel Partners with Sea Services. And with their supported funding, we upgraded our two vessels' health and safety platforms, and that resulted in much needed additional work. We have since scouted for about 180 days in the northeast and mid-Atlantic. I am very proud to say that there was zero gear conflicts. And through Sea Service, we have opportunity to work up close with Ørsted and a few other Offshore Wind Developers. And this has allowed us to build trust and to realize that there is a sincerity to their vision working together. Ørsted has shown us that they very much wanted to work with Fishermen, actively seek out and hire Fishermen, because of their knowledge of the area. Our family believes the future of these two industries in that combination lies in the difference between struggling generation of fishing and a diverse, thriving family business. Therefore, I offer my complete and enthusiastic support.	Thank you for the comment.
BOEM-2022-0045-0115	4	I'm. Pleased to speak in support of the Revolution Wind Energy Project today on behalf of the city of New London and our development partners. Of course, that never source. New London is the fourth most distressed city in Connecticut, and faces many of the challenges shared by other New England cities working to regain their prominence as the economic centers of their region. Revolution Win will play a major role in the economic revitalization of New London as one of three offshore wind energy projects that will be staged, assembled and shipped from State Peer in the port in London, together with Southport wind and sunrise, when revolution win, will guarantee hundreds of direct jobs at the revitalized peer and thousands of indirect jobs and economic development opportunities in New London and across the region over the next ten years. These are jobs and business opportunities that we desperately need. In addition, the Host City agreement between New London, the State of Connecticut, and the joint development team of warsted and ever source represents a significant	Thank you for the comment.

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		and guaranteed source of revenue that will benefit the hard working taxpayers of my city But jobs and economic development are only some of the positive impacts. We will see from revolution wind and the offshore wind industry as the mayor of a four hundred year old port city with homes lining our shoreline, and with one of the premier public beaches on the East coast. I am keenly aware of the need to address climate change. Revolution Wind is designed to provide three hundred and four megawatts of clean, sustainable energy to Connecticut, and four hundred megawatts to Rhode Island enough electricity to power more than three hundred and fifty thousand homes in re across both States. To put it another way, the carbon emission reductions from the from the project are equivalent to taking. Taking more than two hundred thousand cars off the road in revolution. Win will play a significant role in helping both both States achieve their clean energy goals. In the years to come these individual goals will contribute to the national goal of generating thirty gigawatts of electricity from offshore wind energy by two thousand and thirty. For all these reasons I am pleased to support revolution. When I am proud that one of the nation's first commercial-scale, offshore wind energy projects will be produced from the port of New London. Thank you very much for the opportunity.	
BOEM-2022-0045-0117	4	How are you doing? My name is Scott Yerman, S-C-O-T-T, Y-E-R-M-A-N. I live in Westerly, Rhode Island. I've been fishing for 40 years, starting with my father when I was eight years old. I don't particularly enjoy speaking at public hearing. I am actually glad to be here tonight to support Ørsted's Revolution Wind Project. There are three things that I want to share. The concerns that remain out there are real about offshore wind. And I share them. But, after really digging into offshore wind with my father and other Fishermen, who are now Vessel Partners in the Sea Services Group, I came away much more realized than I thought possible. Particularly with the windfarms remaining open for fishing and the turbines spaced a mile apart, my biggest concerns were resolved. If more people did the same work, I'm pretty sure that they would come to the same conclusions we had. Offshore wind and commercial fishing will be fine side-by-side in years to come. Ørsted's Team have been straightshooters with us from the beginning, few years back. We were tough on them as Fishermen, and we like straight talk. And, as it turns out, so does Ørsted. They do what they say. Can't say -- can't ask for more than that. Ørsted is providing guys like me with a new way to earn money. And it has already been good for me and for my family. I'm looking forward to working on Revolution Wind, once it's approved and construction next year. Thank you.	Thank you for the comment.
BOEM-2022-0045-0118	4	I have been a Commercial Fisherman for 35 years. I am here tonight to support the Revolution Wind DEIS. Offshore wind is coming and we are making it work for us. At Sea Services Vessel Partners, we upgraded our two vessels health and safety platforms. We have scouted for our fixed gear for six months in around 90,000 miles of ocean ahead of our large research vessels in the northeast and the mid-Atlantic. I am proud to say that there were zero resulting gear entanglements. With the fishing regulations displacing many Fishermen, we need these opportunity to supplement shrinking fishing income.	Thank you for the comment.
BOEM-2022-0045-0115	5	Good afternoon. My name is Greg Ohadoma. I'm The Policy associate at the Northeast Clean Energy Council, or NCEC. NCEC is leading the Justin Roberts transition to a clean energy economy across New England and New York. The Revolution Wind Project being developed jointly by our State and ever source represents a cleaner future energy future. We not only to medicate in Rhode Island, but also the region and the country's transition to a carbon free electricity. This is all done by also ensuring that also wind, energy, wildlife, and our natural resources thrive together. The clean energy is one of the fastest growing sectors of the economy. The Revolution Wind Project will generate jobs in Rhode Island and Connecticut. Well, each State's reliance on carbon emitting it energy sources and ensuring the reliability of our grid Ulster wind has the potential to drive economic recovery. A stimulate coastal economies up and down the East coast. Human project devotes will, oh, create a cleaner for sustainable Rhode Island and Connecticut. It's estimated that the project will generate about one thousand two hundred jobs across both States during this construction phase, and dozens of good paying, permanent, full-time operations and maintenance positions on servicing the wind farm with with thousands of indirect, and you Jobs also anticipated, and NCEC, urges both to keep this published schedule for the Revolution wind project and make a reality. The BOEM consider, taking no action, know that it would harm both State's efforts to addressing climate change. The expansion of offshore wind capacity is essential for the decarbonization and for the realizing of greenhouse gas emissions reduction commitments to the New England states. The transition to a clean energy is critical. As Rhode Island and Connecticut continue to focus on bringing more clean carbon-free sources to the region. Rhode Island has one of the most ambitious, clean energy goals in the nation, percent renewable energy by two thousand and thirty three, and roushing. What Is it critical in helping Rhode Island and helping that communicate, hoping that it could also catch up in its carbonization promises. Again, NCEC Supports this development to reduce carbon emissions in the region, and it urges to keep its published schedule for the revolutionary project. It moves through the EIS space. Thank you.	Thank you for the comment.

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BOEM-2022-0045-0118	5	My son and I are the owners of New London Seafood Distributors, a New London, Connecticut-based unloading facility. We have owned the business since 1989. It is homebase for a dozen commercial fishing vessels, both large and small, operating inshore in Long Island Sound, and offshore up to 100 miles. We are vital to their operations providing fuel, ice, arranging shipping of their annual 6 million to 8 million pounds of seafood to various markets in New York, Massachusetts, Pennsylvania, and Maryland. I write on behalf of both New London Seafood Distributors and as a Co-Founder of Sea Services North America, a multistate consortium of active Fishermen seeking to help build U.S. offshore windfarms. I write in full support of Ørsted's/Eversource's Revolution Wind Project. While offshore wind's development presents uncertainty to Fishermen, it is just uncertainty. There is no doubt that uncertainty can be frightening. And while the concerns raised by others was important, we have to be willing to deal with the facts rather than fear-based narratives. We have done a great deal of investigation and research, and found that each of the concerns raised have been raised in wind projects around the world with virtually no correlation between early concerns and actual commercial impact where fishing grounds remained open. Moreover, here, in the U.S., we are calling on global data in industry best practices to find solutions that will address the need for green energy, fishing concerns and fears of what is being labeled as "unknown". As Commercial Fishermen, local Businessmen, and concerned citizens, we are first concerned about our community and profitability. Other Fishermen decided to pursue dollars in the form of disruption payments. But we have found another way. We have decided to pursue a sustainable and scalable way to participate in the development to be constructively at the table. So once we achieved a level of comfort with the Ørsted Team, we began to look for ways for our vessels, along with others, to work the waters for the offshore wind industry. We have spent time and energy with the Ørsted's Revolution Wind Team. And we can say that they are the very best in the offshore industry. Their investment in a project means a great deal for several New England fishing communities. And we are already seeing the economic impact in New London. We want to see Revolution Wind move forward rapidly. We have worked for nearly four years with Ørsted's New England Team. And they have been straightforward, accessible, and as open as we think they can be. We understand the concerns of some of our Fishing Colleagues. But given the level of commitment to investment, education, job creation, reduction of fossil fuels, we have seen the -- excuse me -- we have seen the benefits and know that coexistence is a good thing for the greater good. Two years ago, two Associates and I took a trip to Kilkeel, Northern Ireland, to meet with a group of Fishermen organized into an efficient cooperative that provides scout and safety vessels when they are not fishing. We learned firsthand how the windfarms have impacted them and how they, and the community, have profited by them. We shared our concerns, discussed how they have worked together for positive income -- outcome -- I'm sorry. The results we saw were more than encouraging. And we decided to put in the time and effort to duplicate their model. That model has become Sea Services North America, LLC. We recognize Ørsted's commitments to Fishermen as being the first to offer a substantial Commercial Contract that includes local Fishermen to provide scout and safety vessels on the Revolution Wind Project. We completed thousands of miles of scouting with no issues. And with that success, it is providing further opportunities to Commercial Fishermen and scout vessels. That effort was rewarded with Contracts that will supplement Fishermen's revenue that is capped by regulations and quotas. That new revenue source comes at a cost. Learning technology, upgrading health, safety, environmental standards, and actually doing the work is required. The opportunities are very real. And with Ørsted's commitment, this is not a zero-sum game. It is a win-win. We strongly urge you to move forward with Revolution Wind Project, forward with all the proper appropriate speed.	Thank you for the comment.
BOEM-2022-0045-0113	6	The utilization of domestic content in offshore wind projects is also relevant to a number of our national offshore wind goals. Securing a domestic offshore wind supply chain is essential to ensure that offshore wind projects can be deployed effectively and on time. The March 2022 offshore wind energy supply chain report by the National Renewable Energy Laboratory (NREL) states that supply chain constraints caused by global bottlenecks are one of the greatest risks for achieving the NOWT.21 The modeling in the report also shows that average and maximum job creation utilizing 25% domestic content versus 100% domestic content in offshore wind projects results in a difference of approximately 30,000-40,000 jobs from 2023-2030.22 In addition, across renewables, even a modest increase in manufacturing produces an additional 45,000 good manufacturing jobs per year and an additional $5 billion in wages through the 2020s, as the U.S. continues greening its electricity grid.23 Further, domestic content requirements are unlikely to influence wind power capital costs.	Thank you for the comment.
BOEM-2022-0045-0070	6	We support the development of offshore wind on our coast and have already taken important steps to ensure we are well positioned and prepared to play a central role in enabling and supporting current and future projects, as evidenced by the	Thank you for the comment.

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		port hosting the first purpose-built offshore wind terminal in the northeast, the New Bedford Marine Commerce Terminal. The development of this new industry has the potential to create thousands of local jobs, promote port infrastructure, and advance the Commonwealth and the Nation's climate and renewable energy goals. We also have been educated in the extremely complex operational needs and process of permitting, surveys, design work and environmental review not only for this project, but for the over a dozen projects that are currently in the pipeline. We are committed to supporting these developments and deploying the resources of our full-service port on behalf of this emerging industry, while we continually service a thriving fishing fleet and weigh the effects that the outcome of this work will have on the continued success of our fishing industry.	
BOEM-2022-0045-0113	7	National security is also protected by utilizing domestic content. A jointly-commissioned summary report of the U.S. Department of Energy (DOE) and the North American Electric Reliability Corporation (NERC), assessing risks to the U.S. electricity generation and distribution infrastructure observed that the “bulk power system is dependent on long supply chains, often with non-domestic sources and links” and determined that the “increased reliance on foreign manufacturers, with critical components and essential spare parts manufactured abroad (e.g. HV transformers)” means the “supply chain itself represents an important potential vulnerability.”25 The report recommends that “efforts should be considered to bring more of the supply chain and manufacturing base for these critical assets back to North America.”	Thank you for the comment.
BOEM-2022-0045-0115	8	My name is Laurie White, and I'm The President of the Greater Providence Chamber of Commerce in Providence, Rhode Island, and thank you for reporting us this opportunity to say a few words today in support of project. We are in strong support of revolution. Wind, and one of our members, Forsted has become a true Rhode Island success story. Gorstad has opened a Us. Headquarters in Providence, and has helped to shape the blue economy here in Rhode Island, in conjunction with a number of our colleges, universities, and small businesses. We are very strongly supportive of the application we have testified for this entity in in previous months to indicate that we believe that the blue economy offshore wind industry a strong catalyst for businesses, particularly small businesses that are looking to reposition, their industry, and also to make a strong statement in port of a sustainable, our our planet, and for our climate the greater Providence Chamber of Commerce continues to offer its services to assist. Ah, these planning entities to understand the impact on small business, and also to continue to be a resource to our business members, working in conjunction with our and and colleagues within the environmental community, and within organized labor as well. We listened intently to Patrick Trolley, secretary, treasurer of the Afl. Cio, and also to our colleagues in Massachusetts Jd Cheslock fast. This is Round Table, also very interested in the comments of the Mayor from here in London. So together we can make a strong statement in behalf of this industry and continue to keep more stead to be a major employer.	Thank you for the comment.
BOEM-2022-0045-0119	8	I wanted to uh testify tonight, not only for myself, which uh very much is the case. Um, but also on behalf of my membership. Uh, I am a representative of the International Union of Painters and Allied Trades District Council Eleven. We handle um All the aspects of finishing trades throughout Southern New England, including Rhode Island, Connecticut, and parts of Massachusetts and Um. I'm. Also tonight representing the Brown Building and Construction Trades Council, which is ten thousand members and sixteen different crafts, based in the State of Rhode Island. And i'm also testifying, like I said, for myself, as a father of two young daughters uh three, and now almost eight months old. The reality is that climate change is upon us. We do not have a choice but to act. And projects like this revolution wind are a huge part of the solution. In fact, they are a key part of the solution. The reality is that these projects not only will have a positive environmental impact in the small area where they are, but even more so in the macro impact of what we're facing as a country, and really as a globe and a species in the ravages of climate change, these wind turbines will produce renewable energy without putting forward any fossil fuels, and in the small impact they actually have a great benefit for the fisheries and the areas where they're sited. But I also talk about what we specialize in, which is ensuring that working people of diverse backgrounds have an opportunity to move oftentimes from a situation of poverty into the middle class with hard work, schooling, training, learning a skill set that protects our nation's infrastructure. I don't know if Brother Maximo is going to join us tonight, but I want to tell a quick story about one of my members who worked on the Block Island Wind Farm. These are five turbines that were installed off of the coast of Block Island on those turbines, My good friend and brother Maximo worked on this project with hundreds of other tradespeople from the State of Rhode Island and across New England. Maximo was able to purchase his first home in the State of Rhode Island. From working on that project, I can say that this project changed his life as a man who lived and grew up in the south side of Providence. Dominican American background projects like this offer that pathway, that ladder into the middle class. We focus on ensuring that people from across the urban Center and Providence	Thank you for the comment.

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		Pawtucket, Central Falls, and wherever people are from have an opportunity to learn a trade, and then move into again that living that we view as the American dream which not all of us get handed to us. Some of us have to work very hard to get to This project is needed. Projects of its type are needed, and we are so happy to support it, and include and make sure that there's pre apprenticeship, apprenticeship, prevailing wages, and training offered to people, so that we can get these projects done, and provide the energy, the clean, renewable energy that America needs.	
BOEM-2022-0045-0119	9	My organization brings together environmental advocates and the clean energy industry here in New England to promote the region's renewable energy resources. I thank you for the opportunity this evening to provide Renew's perspective concerning the draft environmental impact standard uh submitted by a revolution wind Renew, uh, recognizes that offshore wind projects uh, above all, must be developed with strong and reasonable protections in place to meet our coastal and marine environment and wildlife. Uh and on behalf of Renew, I'd like to offer my appreciation to BOEM for working, to ensure offshore wind is developed um and accomplished responsibly approval of the many offshore land projects now here off the coast of New England is pivotal. Um for not just New England, but also the entire Atlantic coast. To realize our nation's renewable energy potential and to reduce a carbon reduction are to provide carbon reduction, or rather and revolution wind, and the several other projects in adjacent lease areas that are now under contract will also provide significant economic development benefits for New England, and we expect further economic development development benefits up and down the east coast. Uh, for example, uh a recent economic study that was conducted by American clean power reported that offshore wind development off the Atlantic coast could translate into fifty-seven billion dollars in direct investment, and eighty-three thousand well paying jobs by two thousand and thirty. This is all while stabilizing retail electricity rates and emitting no climate-altering greenhouse gas emissions, Revolution Wind, along with other wind projects with contracts being developed here in my region, will strengthen the clean energy industry by creating green jobs. Um! And so will also help New England reach its goals for renewable energy and reduction of greenhouse gas emissions. The two contracting States have requirements for one hundred percent uh clean energy grid. Connecticut has established a one hundred percent zero carbon electric sector by two thousand and forty, while the other Contracting State, Rhode Island, Uh, as of this year, requires a hundred percent of electricity demand, be from renewable energy by two thousand and thirty-three. So So this project and the others are instrumental for this region for my region. To me it's um clean energy requirements, and as a become a major source of economic development For those reasons. Um, we see that BOEM determination on the Revolution Wind, and other projects advanced and permitting, will sign a clear message to the entire offshore wind industry and welcoming it. Uh, in making these the major investments in the clean energy sector. So with that I thank you for the opportunity for me to provide these comments.	Thank you for the comment.
BOEM-2022-0045-0119	10	Save the Sound appreciates opportunity to present these comments on the Revolution Wind Farm proposal, and to express our longstanding support for reasonably cited and operated offshore wind projects. Uh the mission of save the sound is to protect and improve the land, air, and Water of Connecticut Long Island sound Um, using legal and scientific expertise to bring people together to achieve results that benefit our environment, for current and future generations. And uh revolution, wind um, and other offshore. When projects are really poised to play an essential role in the ability of Connecticut, Rhode Island and the entire region to meet critical greenhouse gas reduction and clean energy goals. Um, Accordingly, Uh, We've been encouraging a robust procurement of these resources that maximize the deployment of offshore wind energy, while also satisfying stringent, environmental standards. Um and I do uh uh associate myself with some of the comments we heard at the top as well. Um, which I will get you in a moment. Um as noted in the draft uh environmental impact statement. Uh, the current project will provide three hundred and four megawatts of clean, mobile energy to Connecticut and four hundred megawatts Rhode Island. Uh: through separately executed power purchase agreements with each State And these procurements, as you just heard, support Connecticut's goal of securing a hundred percent zero carbon electricity by two thousand and forty um, and they also for the support uh the Federal Government's goal of thirty gigawatts by two thousand and thirty um, and uh, that's even a nationwide. A pretty modest uh goal uh independent analysis is indicated that just in the northeast region. Uh, we're going to need between thirty to forty-five gigawatts of offshore wind resources uh to sufficiently to to displace uh fossil fuel generation and achieve our net zero emission goals by two thousand and fifty um as the first offshore wind to sign a power purchase agreement with Connecticut. We're particularly interested in seeing this project fulfill its promise of delivering clean energy, providing good jobs and enhancing the local economies. Um, But this does, however, require careful balancing of the need to maximize energy output, minimizing disturbances to marine mammals and the marine environment. Um and uh A along those lines so	Thank you for the comment.

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		uh to the extent that the DEIS is not uh separately evaluating potential impacts to uh the North Atlantic Right whale, um! That really is a serious oversight. There have been numerous conversations among offshore wind developers and environmental groups. Um, with respect to um addressing impacts to the North Atlantic and to uh to minimizing those um, I suspect. Um, if there is a a discrete evaluation of those impacts. Um, it's going to change some of the outcomes of the alternatives Analysis. i'm thinking specifically as we look at the potential for larger size turbines and uh reducing the number of foundations that are needed. Um, taking advantage of the technological advances in wind turbine design uh not only is going to allow us to to sort of shake that for foot footprint. Um, but that's going to have uh probably significant benefits.	
BOEM-2022-0045-0119	12	So the environment is, you know, very important to me and my family. My kids. Uh, I appreciate BOEM facilitating offshore wind and doing it a responsible, safe way. Uh by day I I an industrial painter, I paint bridges, power plants, and the like. So I've seen the impact in my own industry. Just you know, folks. I know a few folks that worked on the for the offshore Wind Farm. We built a couple of years back, and it like as a call or a couple of calls back mentioned It was. It was life altering. And you see a whole new industry popping up, and all new training certifications for working folks, and it's really inspiring, And it's something we really need here. It's not just good for the environment. I think it's something that's good for our economy, and some that's good for our industry. It's nice to sit and just think about where it could go. The possibilities are endless, and you know Rhode Island's workforce is geared up ready for it. Excited, excited about it, excited about the new industry, ready to take the training, ready to perform the work safely. And you know responsibilities to ensure that there's as little, you know, negative environmental impacts as possible. So yeah, we're I'm fully in favor of it. I think it's great on many fronts, and I guess i'll leave it there. Sounds great. Thank you, folks.	Thank you for the comment.
BOEM-2022-0045-0115	13	Thank you for the opportunity. Sorry for not being available earlier. Little technical difficulty. I'm President and Ceo, of the Chamber of Commerce, of Eastern Connecticut, cover forty two towns in the region, and we have a thousand four hundred and companies, and I'm here to, you know, enthusiastically support the Revolution Wind Project First, for two main reasons, which have been much has been said already about the two reasons. One is the economic development that that the whole offshore wind business brings to Connecticut, and the second reading reason is the we all have today. Both our skin and never source, have been great partners in the region. This is the start of this project. They've been devoted to working with everybody at a number of meetings on the subject. To bring people up to date is another one, scheduled or later in November. So, for all the reasons I have been mentioned previously, and on behalf of my board, and one thousand or one hundred companies that belong to the Chamber at night, enthusiastically support this project and would urge approval as soon as possible. Thank you for the time.	Thank you for the comment.
BOEM-2022-0045-0118	13	And I'm a lifelong Fisherman. My background is mainly in the lobster industry working the areas in and around these windfarms are going to be built. Five years ago, I had a heart attack, which sidelined me from the careers of fishing in the northeast. This was a huge change for me personally, financially. I went to work ashore for a seafood company cutting fish. This last year, I approached Scott Yerman, the owner of the fishing vessel, New Horizon. I have known and worked with the Yerman family for years at the dock in New London, Connecticut. I had heard they were involved in offshore wind. We discussed the duties I would participate in and go back to sea aboard the New Horizon. The hours of rest, wheelhouse duties, Crew drills, training fit comfortably. They made arrangements for me to make -- to take the SPCW training [indiscernible]. I joined the Crew for this year's scout duties working with a survey ship. My fishing experience and being able to communicate with fishing vessels working in these Lease areas made for successful profile of the seas and with zero gear interactions on our watch. I am very proud to be back making a living on the ocean and to be working together with my fellow Fishermen to make this entire project a success. Fishermen are extremely independent by nature. I can't argue with that. I'm one, myself. I also know that we need a new source of energy. Will Fishermen be impacted? Yes. Will it put them out of business? No. Good Fishermen always find a way. I've seen Ørsted working with Fishermen firsthand. And I appreciate that BOEM is here looking for answers.	Thank you for the comment.
BOEM-2022-0045-0119	13	I'd like to start by thanking BOEM for this opportunity to offer these comments in strong support of the Revolution Wind Project, and on behalf of climate jobs. Rhode Island. We are a coalition of Rhode Island, Rhode Island labor unions, environmental advocates, and community organizations that are working together to establish a just transition to a green economy in Rhode Island. Together we are committed to working together to make sure that Rhode Island is a national leader in the development of an equitable pro worker pro climate twenty-first century economy. So in the last two years, as many of you, I am sure, are aware Rhode Island has set ambitious carbon emissions, um and energy, clean energy goals that	Thank you for the comment.

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		are essential to combating climate change and creating a healthier environment throughout the State with the passage of the two thousand and twenty-one act on Climate Rhode Island is now required to achieve net zero emissions, economy wide by two thousand and fifty, and with last year's passage of the one hundred percent renewable energy standard. Rhod Island is also required to increase its renewable energy supply to one hundred percent by two thousand and thirty three. This swift and efficient development of offshore wind projects, such as Revolution Wind, are absolutely key to Rhode Island meeting these clean energy targets, the over seven hundred megawatt Revolution Wind Project will deliver four hundred megawatts of clean energy to Rhode Island, and over three hundred megawatts to Connecticut, producing enough clean energy to power, more than three hundred and fifty thousand homes and displace by eliminating future emissions. More than one million metrics of carbon pollution. In addition to these environmental benefits, revolution wind will also serve as a key driver of jobs, economic growth and investment. So, as both brothers, Robert Hill and Justin Kelley have already mentioned. Um, we can start to recover from the unprecedented social and economic impacts of the Co. Covid, nineteen pandemic uh, with the approval of revolution wind pro of the Revolution Wind project and developed by orsted and eversource. It will directly lead to the creation of union jobs that come with family sustaining wages and good benefits and revolution wind is expected to generate one thousand two hundred jobs in Rhode Island and Connecticut during the project's development and construction. In addition to dozens more during operation and maintenance positions throughout the life of the Wind Farm. So, as a community leader, I understand that the opportunity offshore wind presents for not only our State, but our entire region in the country, and I strongly believe that Americans should not have to choose between good jobs and clean a clean environment. We can, in fact, have both, and revo the Revolution Wind project is an opportunity to not only drive the nation's clean energy future, but also create quality, family sustaining union jobs at the same time. So I urge BOEM to move forward with revolution wind's permitting process uh BOEM has provided six alternatives for further review, and within those six alternatives is really only one that BOEM should not consider, and that is no action, No action would harm our State's efforts to address climate change, while also eliminating quality job opportunities and sustainable work for hard working local trades people that come with this project. We need revolution Wind to be built offshore wind is critical to the future of our nation's security, environment, and economic recovery, and I urge BOEM to stick to its publishing schedule for re the Revolution wind project and put our trades people to work as soon as possible. I thank you for the opportunity to comment. Um, Thank you.	
BOEM-2022-0045-0118	14	And our customers are looking for environmentally produced good seafood. I am in favor and many of my customers are in favor of a windfarm project such as this. But, as a Fisherman of three generations, I think there's a better way to catch a fish. And with your managing the sea, there's never been a better time to -- let's put it this way. The old-fashioned fights and fish traps, put them in the sea, if you're already putting a hole in the sea. Keep in consideration of a better way to catch a mouse. And in this case, I think the windfarm and your Leases did that. I am concerned about safety at sea. There's -- putting hundreds poles standing in the middle of March, when we have problems with Crewmembers who can't take a watch, is going to be a problem. And I've thought of an idea like that lights that come on in a garage as you walk by it. I think something that requires that, and I'm also asking that a better way of these fish getting us Permits to allow us to catch fish in a different way within that area to prove that there's no effect on the sea. If you put one right next to a pole and another couple hundred -- another 5 to 10 miles down the way, you would actually see, if it's the same method. You'd be able to prove if it had an effect or not. And that's just -- like this man here was saying, this proof is in the putting, then. So if you permit us to do two different ways in the close and the farther way, without troll gear, between pots or traps, and that's my idea. But I fully support this operation. I look forward to working with the windfarm industry.	Thank you for the comment.
BOEM-2022-0045-0069	21	The localized impacts from the construction and operation of the Revolution Wind Farm to marine and avian organisms may be significant; however, this project will result in substantial reduction of regional fossil fuel generation and lower emissions of nitrogen oxides and carbon dioxide. Therefore, on balance, the RIDEM is supportive of the Revolution Wind Farm and its contribution to mitigating the impacts of climate change.	Thank you for the comment.

Technical Editing

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BOEM-2022-0045-0100	27	In footnote 12, the citation for the document that BOEM refers to does not appear in the subsection for 3.3 in Appendix B - References Cited section. Please clarify what document this footnote refers to by adding it to "References Cited".	Thank you for the comment. Edits have been made.

Non-Codable and Out-of-Scope Comments

Non-Codable Comments

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BOEM-2022-0045-0006	1	This pertains to the corruption involving the bidding process for Port Operations in New London as it relates to the CT State Pier project. As a result of this process, businesses other than the wind-fann industry are unable to utilize any of the state pier space. In addition, a road-salt providing company doing business at the pier was forced out by the new operating company who happens to operate a road salt company of their own in Neiw Haven I In addition, union labor was removed from the operation at the pier and the operating company transferred existing business over to their New Haven port location .. There has been considerable publicity on this subject and I can forward large volumes of it, all on paper, for your review. I have some full notebooks of typewritten articles and material so far. The environmental issue remains a problem, concerning space between the 2 piers, which has not been properly resolved. The agencies involved with this process would seem to have been affected by politics. The incredible cost increases, to be paid primarily by the CT taxpayers, are still skyrocketing and will continue to do so as more difficulties are encountered, such rocks interfering with pile-driving. The cost over-run from this will be staggering, although no estimates have been given as of yet, to no ones surprise ! Please help to correct this flawed project. Please do not proceed with blindly approving it for political reasons. A copy of this letter is being sent to President Biden. If he is encouraging such projects, with people and businesses being steamrolled, then i am hardly feeling encouraged to vote Democratic in the coming election, much less vote for Mr. Biden himself in 2024 ... and I never thought I would make that statement, considering the times in which we live.	This comment submission is not code-able. It addresses a project other than the Revolution Wind Farm and Revolution Wind Export Cable.
BOEM-2022-0045-0106	1	This comment submission is a duplicate of BOEM-2022-0045-0107 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0107 and was not coded.
BOEM-2022-0045-0083	1	This comment submission is a duplicate of BOEM-2022-0045-0111 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0111 and was not coded.
BOEM-2022-0045-0076	1	This comment submission is a duplicate of BOEM-2022-0045-0078 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0078 and was not coded.
BOEM-2022-0045-0032	1	This comment submission is a duplicate of BOEM-2022-0045-0023 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0023 and was not coded.
BOEM-2022-0045-0055	1	This comment submission is a duplicate of BOEM-2022-0045-0024 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0024 and was not coded.
BOEM-2022-0045-0056	1	This comment submission is a duplicate of BOEM-2022-0045-0029 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0029 and was not coded.
BOEM-2022-0045-0081		This comment submission is not code-able. It is addressed to an agency other than BOEM and discusses that agency's permitting decision.	This comment submission is not code-able. It is addressed to an agency other than BOEM and discusses that agency's permitting decision.
BOEM-2022-0045-0104	1	This comment submission is a duplicate of BOEM-2022-0045-0080 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0080 and was not coded.
BOEM-2022-0045-0120	1	This comment submission is a duplicate of BOEM-2022-0045-0113 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0113 and was not coded.
BOEM-2022-0045-0121	1	This comment submission is a duplicate of BOEM-2022-0045-0122 and was not coded.	This comment submission is a duplicate of BOEM-2022-0045-0122 and was not coded.

Out of Scope Comments

FDMS Submission #	Comment #	Comment	Response
BOEM-2022-0045-0078	4	Transmission Optimized interconnection and regional transmission are of the utmost importance to our collective efforts to meet state and federal decarbonization and renewable energy goals, increase energy reliability, minimize costs, and minimize impacts on the environment and coastal communities. This is even more important in light of the joint Request For Information recently issued by the states of Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island to solicit comments by October 28, 2022 from interested stakeholders, electric transmission industry representatives, offshore wind developers, and others regarding changes and upgrades to the regional electric transmission system needed to integrate offshore wind resources in areas of the region requiring new transmission to integrate into the New England electric system. These states are also seeking comments on a conceptual framework for a multistate Modular Offshore Wind Integration Plan. For this reason, TNC encourages BOEM to solicit input from State Energy Offices and energy regulators to ensure that as the footprint for new Offshore Wind lease areas is expanded beyond the current lease areas in southern New England, all projects within that footprint are capable of integration with a shared grid. Ultimately, BOEM's new leases should contain a condition that requires all bidders to describe how use of the lease area will be optimized for connection to regionalized offshore transmission. Including these considerations early on in the process will encourage bidders to design their projects to enable potential use of shared transmission, if and when, it becomes available.	Thank you for your comment. An analysis of regional transmission falls outside the scope of the NEPA document. BOEM's regulations require BOEM to analyze Revolution Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need in the EIS reflect the requirement per those regulations, whereas BOEM's purpose as stated in Section 1.2 is to determine whether to approve, approve with modifications or disapprove Revolution Wind's COP, is needed to fulfill BOEM's duties under the lease. As part of the NEPA process alternatives were considered and screened if it was outside the jurisdiction of the lead agency as described in Appendix K.
BOEM-2022-0045-0122	20	d. USCG's Lighting and Marking Regulations: In its October 2019 Draft Proposed Guidelines for Providing Information on Lighting and Marking of Structures Supporting Renewable Energy Development, BOEM discusses the USCG's permits for private aids to navigation with respect to WTGs. (PATONs) 33 CFR Part 66. It also provides recommendations for lighting and paint and markings. Is BOEM continuing to work with the USCG to develop lighting requirements that protect the Viewshed? Will the USCG and BOEM modify the lighting requirements when experience and technical developments allow for less adverse Viewshed lighting?	Thank you for your comment. This request falls outside the scope of the NEPA document. BOEM and the applicant will continue to consult with the USCG to assess compatibility of the lighting requirements for RWF in accordance with Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Programs with USCG practices (https://www.boem.gov/sites/default/files/documents/renewable-energy/2021-Lighting-and-Marking-Guidelines.pdf).

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