

New England Wind 1 Connector
CR 7-2022

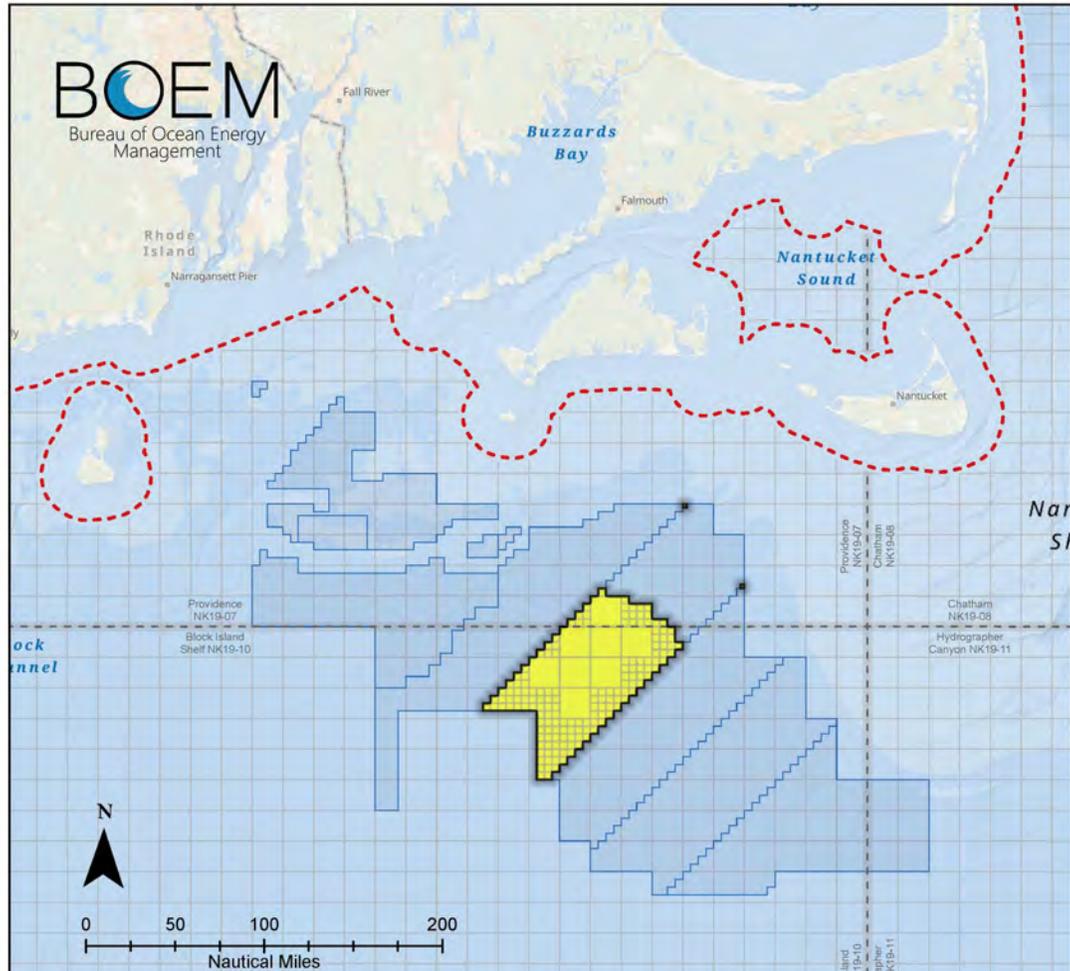
Land Use Planning Committee
June 14, 2022

New England Wind 1 Connector

- Applicant:** New England Wind (partnership between Park City Wind and Commonwealth Wind); Vineyard Power (Richard Andre)
- Owner:** Park City Wind, LLC
- Location:** Waters off Edgartown, including Muskeget Channel
- Proposal:** Installation of two undersea export cables associated with the Park City Wind project south of the Island.
- Trigger:** 5.1b (Development within 25' of the ocean), potentially 9.2b (Wind energy facilities in an ocean zone)

New England Wind Connector 1: Permits

- Local:** Edgartown Conservation Commission, Cape Cod Commission, Nantucket Conservation Commission, Barnstable Conservation Commission, Barnstable DPW and/or town counsel, Barnstable planning and zoning boards
- State:** Massachusetts Environmental Policy Act Office, Energy Facilities Siting Board, Department of Public Utilities, Department of Environmental Protection, Department of Transportation, MA Board of Underwater Archaeological Resources, Natural Heritage and Endangered Species Program, MA Historical Commission, Division of Marine Fisheries, Coastal Zone Management, RI Coastal Resources Management Council
- Federal:** Bureau of Ocean Energy Management, Environmental Protection Agency, Army Corps of Engineers, National Marine Fisheries Service, Coast Guard, Federal Aviation Administration



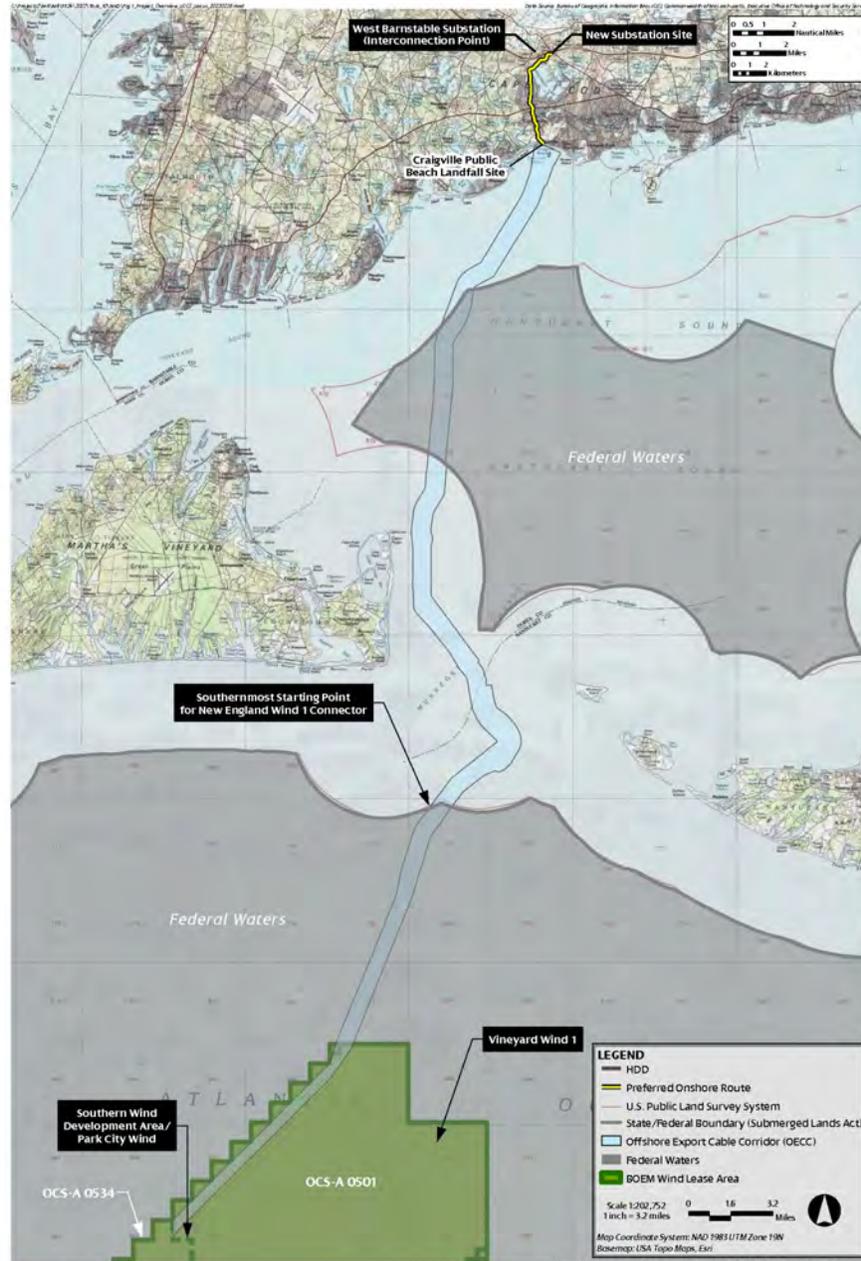
New England Wind

OCS-A 0534

- Lease Area OCS-A 0534
- Federal/State Boundary
- BOEM OCS Protraction Diagrams
- Other BOEM Wind Lease Areas
- OCS Lease Blocks



Esri, GEBCO, DeLorme, NaturalVue, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA



New England Wind 1 Connector



Federal Waters

**Southernmost Starting Point
for New England Wind 1 Connector**

Project history/context

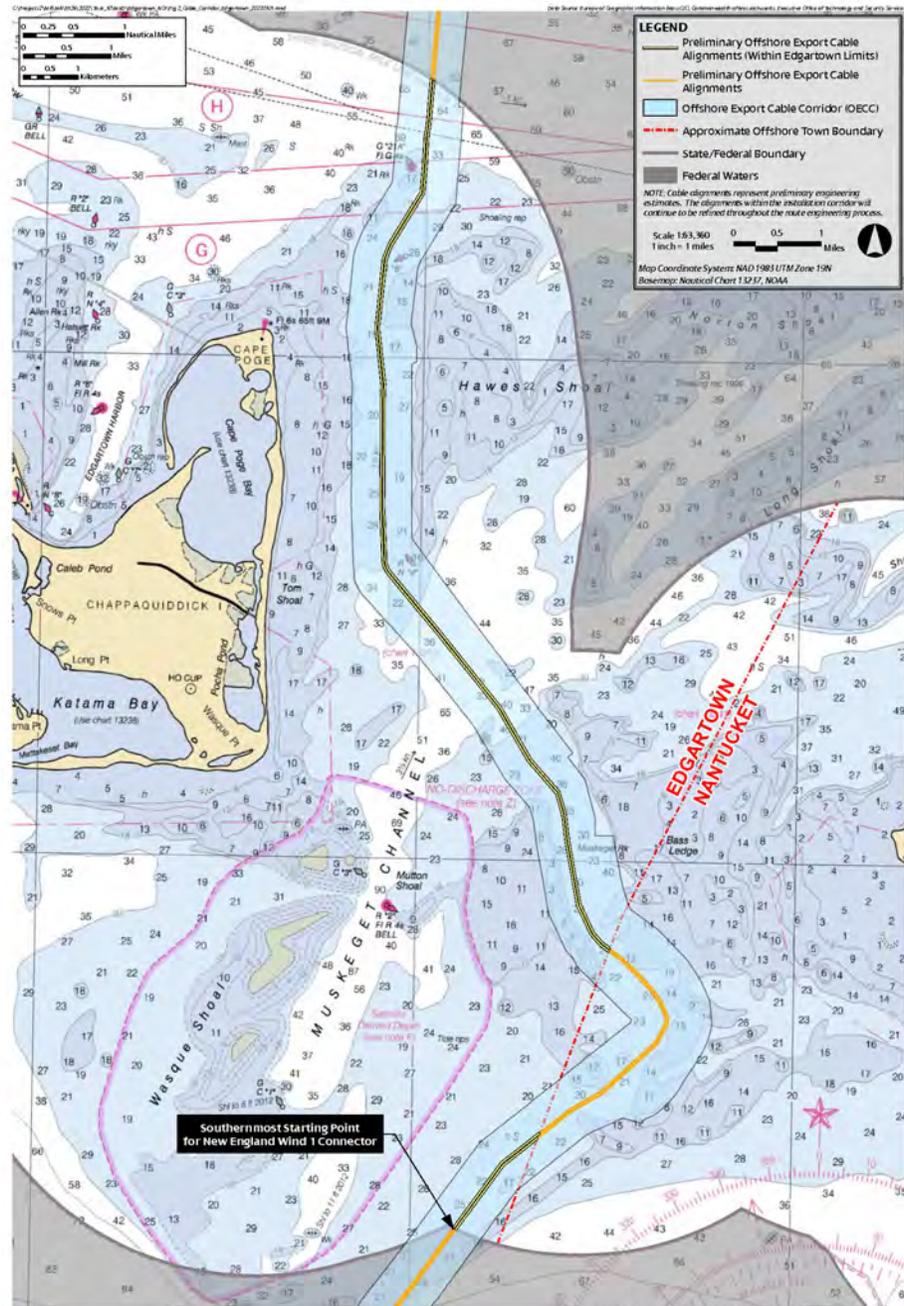
- New England Wind (formerly Vineyard Wind South) is a partnership between Park City Wind and Commonwealth Wind (both 100% owned by Avangrid Renewables), with Vineyard Power acting as a community partner on behalf of the Island.
- Park City Wind is developing a wind project in federally designated lease area OCS-A 0534, located about 19 miles south of the Island, which will provide about 800 MW of energy to the ISO New England Grid.
- The power will be purchased by distribution companies in Connecticut, but the applicant has stated that project would also increase the power supply to SE Massachusetts.
- Commonwealth Wind is developing a wind farm in the same lease area, which will provide about 1,200 MW of energy to Massachusetts.

Project history/context

- The New England Wind lease area is contiguous with the Vineyard Wind lease area (OCS-A 0501) to the north, which will provide about 800 MW of energy to Massachusetts. (Vineyard Wind ownership is 50% Avangrid and 50% Copenhagen Infrastructure Partners.)
- A similar undersea cable project as the one proposed by New England Wind was recently permitted for Vineyard Wind, and installation is expected to begin this year.
- The Vineyard Wind cable project had been referred to the MVC under Checklist item 5.1, which at the time required mandatory review and referral. Checklist 5.1 now requires MVC concurrence.
- The MVC approved the Vineyard Wind project with conditions in 2019. A public hearing included a large amount of public testimony, including about 110 letters.

Proposal

- The proposal is to develop two offshore export cables connecting the proposed Park City Wind project to the ISO New England grid.
- The proposed cable corridor includes about 12.4 linear miles in the waters of Edgartown, and generally corresponds to the corridor used for the Vineyard Wind cable.
- The existing corridor would be widened about 985 feet to the west, and the portion within the Muskeget Channel would be widened about 985 feet to the east as well.
- The total width of the corridor would range from about 3,100 to 5,100 feet and is intended to provide flexibility in terms of routing the cable and avoiding sensitive habitat on the ocean floor.
- At its closest point, the cable would be about one mile from Edgartown.
- Each cable would be about 10” in diameter and lie within an approximately 3’ wide trench.
- The cable will connect at an existing substation in Barnstable.



New England Wind 1 Connector



Figure 2
IOECC in Edgartown Waters, NOAA Chart

Checklist

5.1 Development in or Adjacent to the Water

Any **Development** (including any **Development** such as mooring basins, fill, construction of piers, or armoring of coast), or any improvement or alteration to any existing such development, that is within or adjacent to the following waters of Martha's Vineyard or is within 25 feet landward of the mean high water mark of:

- a. Edgartown, Vineyard Haven, Menemsha or Oak Bluffs harbors or the West Basin in Aquinnah; or
- b. a body of water of ten (10) acres or more (See attached map B-6); or
- c. the ocean.

–Mandatory Referral Requiring MVC Concurrence

This section 5.1 does not apply to:

- a private pier or dock serving only the residents of the property on which it is located and which is not located on a state or federally designated barrier beach; or
- municipal dredging projects located entirely within a single Town and conducted in accordance with a dredging management plan that has been adopted by the relevant Town agency.

Checklist

9.2 Wind Energy Facilities

The erection, construction, installation, or modification of a wind energy facility, or of a measurement tower (or met mast) that will be in place for more than 14 months, in any of the following categories as defined in the Wind Energy Plan for Dukes County (prepared by the Commission in collaboration with the 7 towns of Dukes County and adopted on October 18, 2012):

a. a facility whose height is more than 150 feet

–**Mandatory Referral and MVC Review**

b. a facility located in the Wind Ocean Zone (comprising the Exclusionary Area and the Area of Special concern) (See attached map B-8)

–**Mandatory Referral and MVC Review**

c. a facility located in the Wind Land Zone (comprising the Exclusionary Area and the Area of Special Concern) (See attached map B-9)

–**Mandatory Referral Requiring MVC Concurrence**

d. a facility located less than six (6) times the turbine height from a municipal boundary

–**Mandatory Referral Requiring MVC Concurrence**

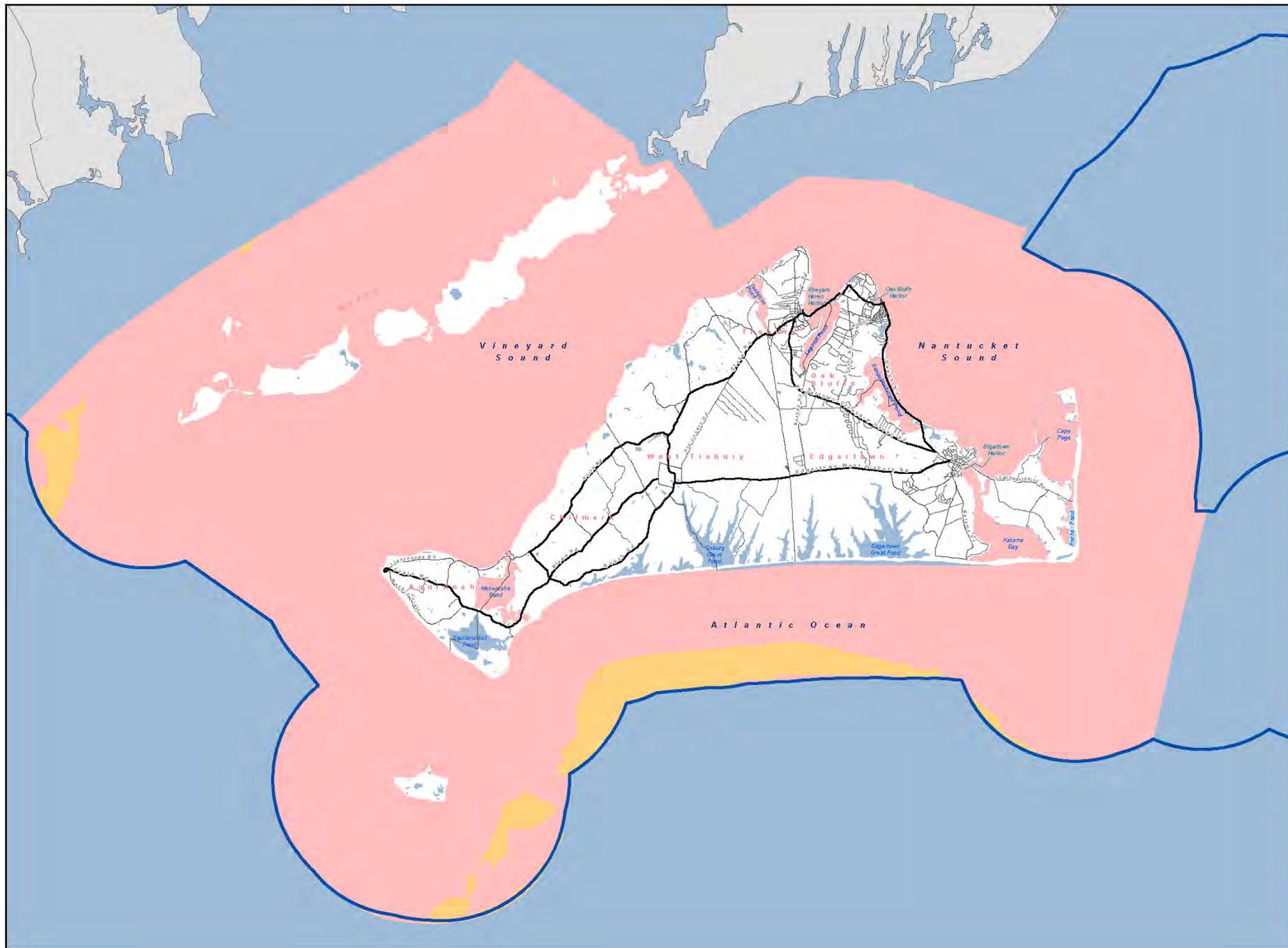
e. a facility that would be subject to review under a Town bylaw where such review is preempted or otherwise not allowed by virtue of an act, regulation, policy, or other law applicable to the Town but not to the Commission.

–**Mandatory Referral and MVC Review**

DRI Checklist
Item(s)
9.2.b

Wind Ocean Zone

Map B-8
MVC DRI Checklist
version 14



Wind Ocean Zone

- Exclusionary Area
- Area of Special Concern

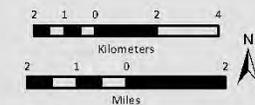
Land

- Dukes County
- Mainland MA
- Town Boundary
- 3 nmi State/Federal Limit

Notes:
These data are presented in the 'Wind Energy Plan of Dukes County' - adopted by the MVC in October 2012. See report's page 122. The 3 nmi limit is per Minerals Management Service, year 2005. *The town of Gosnold is the entire Elizabeth islands chain. The MVC does not have regulatory authority within Gosnold.

DISCLAIMER:
Data provided are for planning purposes only. The data are not adequate for boundary determination or regulatory interpretation. The MVC cannot be responsible for how these data are used or interpreted by the end user.

Compiled By: Martha's Vineyard Commission, 11/4/19, ph, 508-693-3453, www.mvcommission.org
Data: DRI Checklist Item - MVC 2013; Town Boundary - MassGIS 2002; Roads MHD/MassGIS 2018; Ponds - MassGIS/MVC 2005; 3nmi limit - MMS 2005; Land - MassGIS 2009
Projection: Stateplane, MA Mainland, NAD83, m
File: c:_dri, checklist14_B08a_WindOcean.mxd
Original in color



Planning concerns

Environment/habitat

Climate change resilience

Cultural resources

Economic development

Environment/habitat

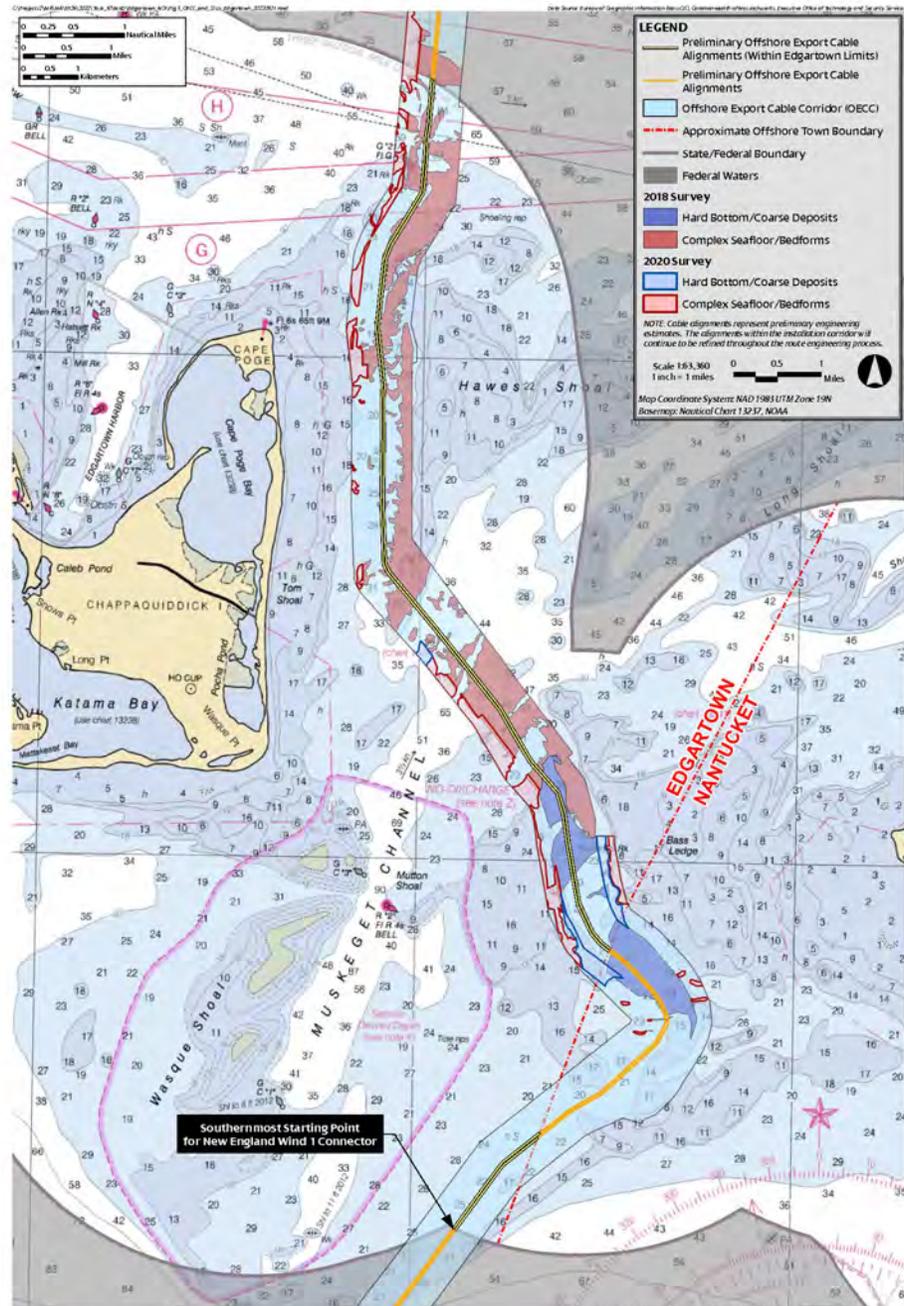
- Park City Wind is under National Environmental Policy Act Review led by the Bureau of Ocean Energy Management with other federal and state agencies.
- The state-level environmental review is led by the Executive Office of Energy and Environmental Affairs (EEA), MA Environmental Policy Act Office, and the Energy Facilities Siting Board. Other federal and state environmental review agencies include the US Army Corps of Engineers, US Environmental Protection Agency, MA Department of Environmental Protection, MA Division of Marine Fisheries, and Natural Heritage and Endangered Species Program.
- Approval is also being sought under the MA Wetlands Protection Act for the alteration of Land Under the Ocean and Land Containing Shellfish within Edgartown's offshore waters.
- A Final Environmental Impact Statement (FEIR) required as part of the federal review was submitted to EEA in 2021.

Environment/habitat

- The applicant has assessed the ocean depths and geological conditions within the proposed corridor, including surveys related to the Vineyard Wind cable project prior to 2020 and more recent surveys.
- The applicant has stated that using a common corridor, and widening the corridor will help to maximize the success of the buried cable and minimize environmental impacts by offering more options for where the cable can be laid.

Environment/habitat

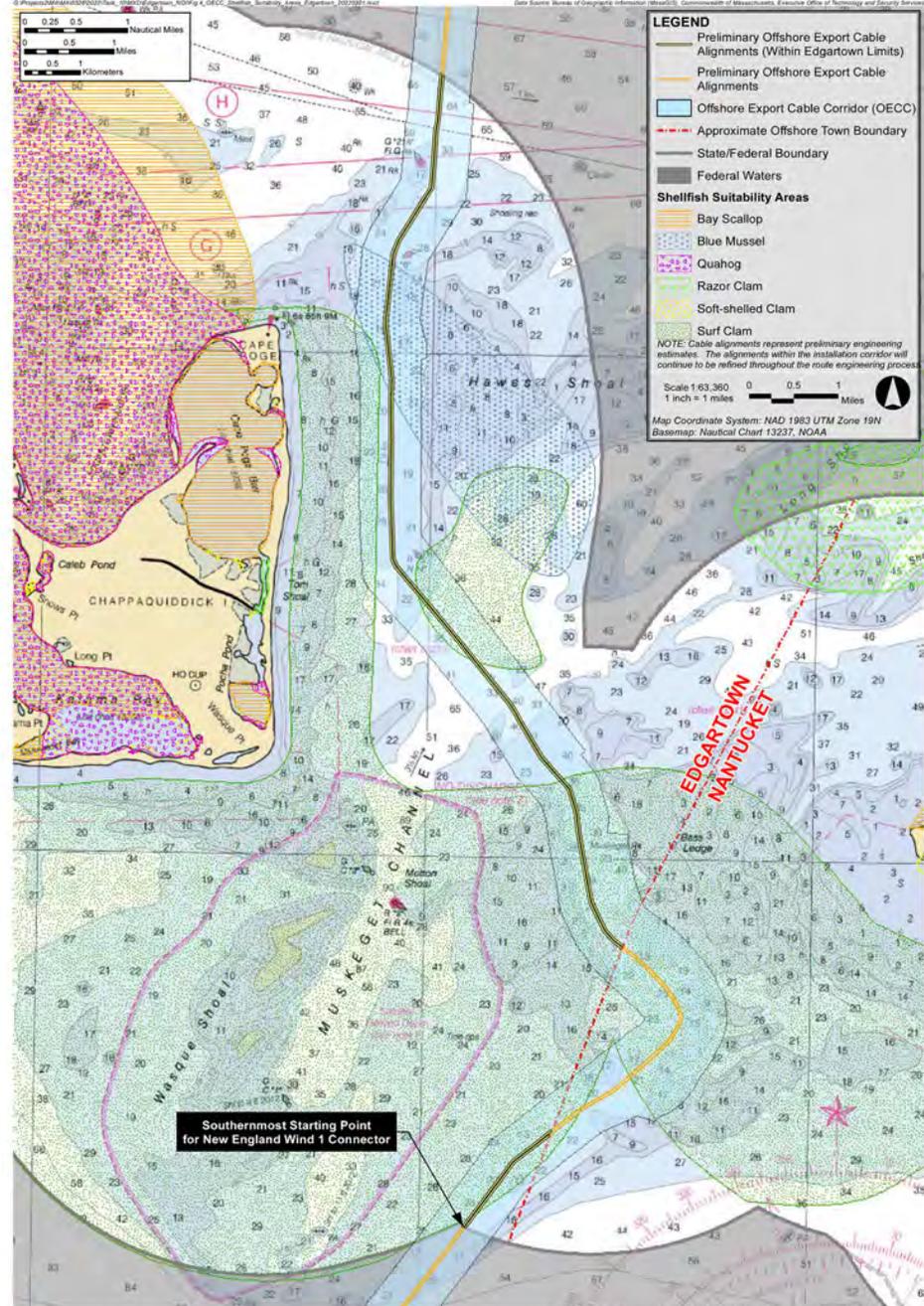
- The applicant has stated that the project will avoid core habitat for whales and minimize impacts to hard/complex seafloor habitats, which are considered sensitive habitat areas.
- Complex habitat covers the full width of the corridor in some areas, and includes features such as ripples and sand forms, which are constantly changing. (The applicant has stated that those areas are considered less optimal as habitat.)
- Hard-bottom habitat covers significant portions of the proposed corridor within Muskeget Channel.
- The corridor within Edgartown waters contains suitable habitat for surf clams and blue mussels, as well as NHESP-designated priority habitat.



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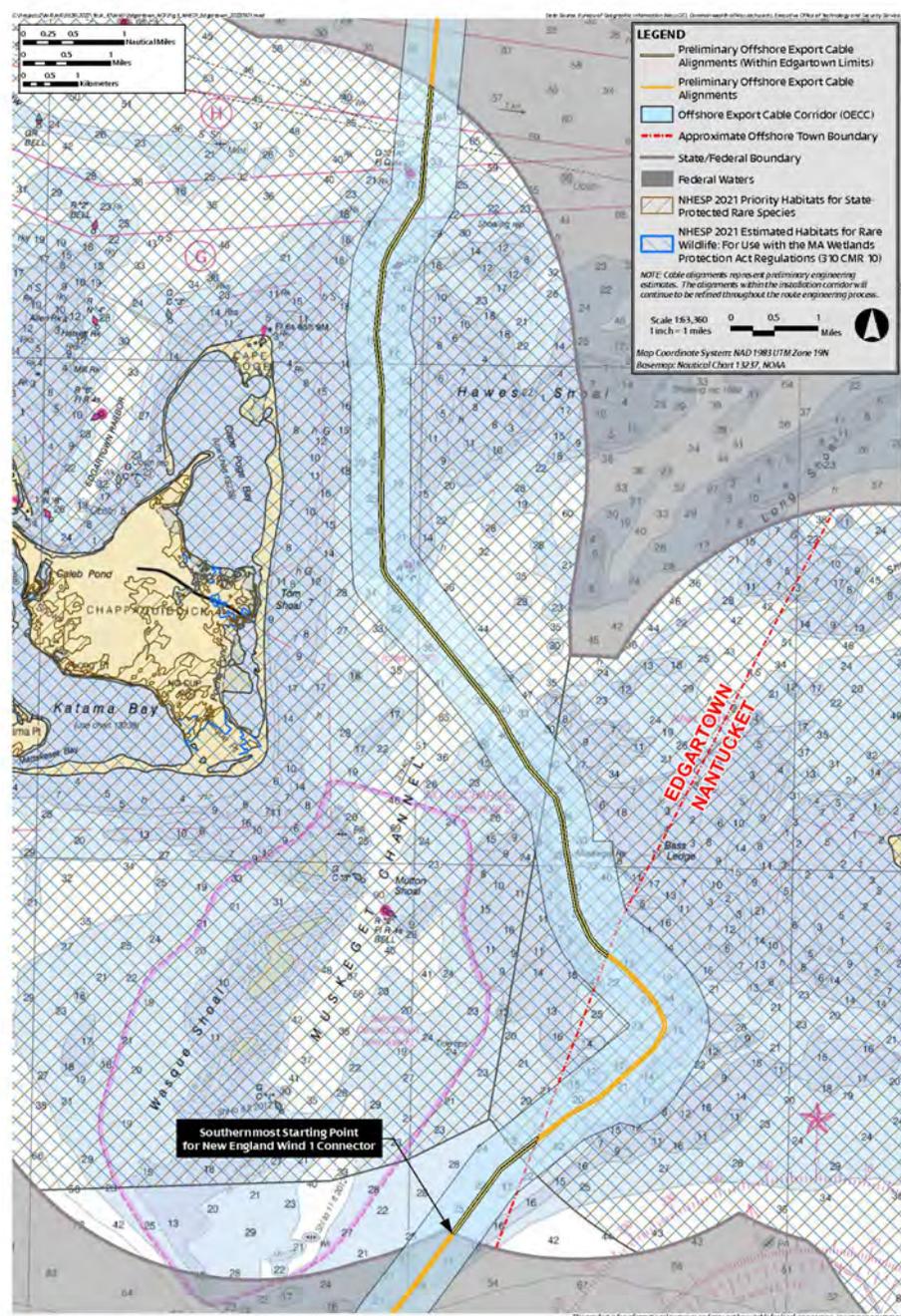
Figure 3
OECC and SSU Areas



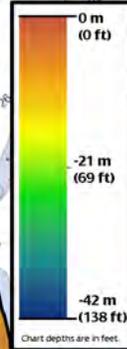
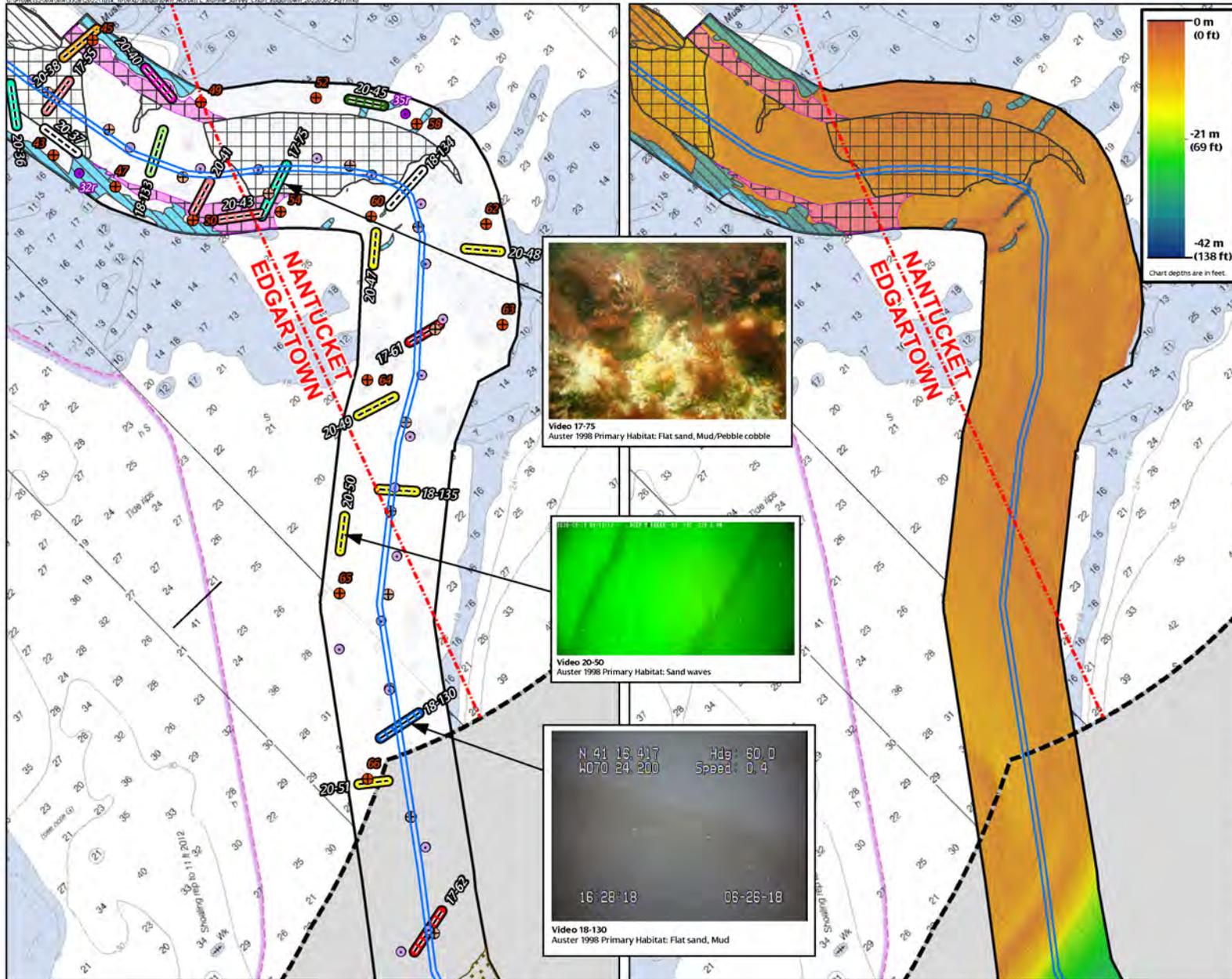
New England Wind 1 Connector



Figure 4
OECC – Shellfish Suitability Areas



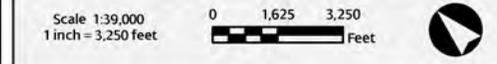
New England Wind 1 Connector



- LEGEND**
- Vibracore (2020)
 - Vibracore (2017-2019)
 - Benthic Grabs (2020)
 - ⊗ Benthic Grabs (2017-2019)
 - - - Video Transect
 - State/Federal Boundary
 - Eelgrass - 2015 DEP Survey
 - Hard Bottom/Coarse Deposits (2018 Survey)
 - Biogenic/Surface Organics & Mats (2018 Survey)
 - Biogenic/Surface Organics & Mats (2020 Survey)
 - Complex Seafloor/Bedforms (2018 Survey)
 - Complex Seafloor/Bedforms (2020 Survey)
 - Offshore Export Cable Corridor (OECC) – New England Wind 1 Connector/Park City Wind
 - Preliminary Offshore Export Cable Alignments
 - BOEM Lease Area
 - Massachusetts Ocean Management Planning Area Boundary
 - Federal Waters

- Auster 1998 Primary Habitat: Video Transect Colors Correspond to Habitat Categories**
- Biogenic Structures
 - Flat sand, Mud
 - Flat sand, Mud/biogenic structures
 - Flat sand, Mud/Pebble cobble
 - Flat sand, Mud/Pebble cobble w/ sponge
 - Flat sand, Mud/Sand waves
 - Flat sand, Mud/Shell Aggregates
 - Pebble cobble
 - Pebble/Cobble with sponge
 - Pebble cobble/Sand waves
 - Pebble cobble/Flat sand, Mud
 - Pebble cobble w/ sponge/Flat sand, Mud
 - Sand waves
 - Sand waves/Pebble cobble
 - Sand waves/Shell aggregates
 - Shell aggregates
 - Shell aggregate/Pebble cobble
 - Shell aggregates/Flat sand, Mud

Basemap: Nautical Chart 13233/13241, NOAA
NOTE: Depths shown on nautical charts are in feet.



Environment/habitat

Potential environmental impacts from the project would result from:

- Preliminary clearing of objects
- Dredging
- Vessel anchoring
- Cable burial
- Cable protection
- Electromagnetic fields

Environment/habitat

Dredging

- Some complex habitat with sand waves may require targeted dredging in order to lay the cables.
- The applicant estimates the length of possible dredging in Edgartown waters to be about 2.3 miles, with about 58,000 cubic meters of dredged material that would be deposited in other areas with existing sand waves.

Vessel anchoring

- Expected along the entire length of the cable path, with up to nine anchor points at a time.

Environment/habitat

Cable burial

- The cables have a targeted burial depth of 5-8 feet below the seabed to protect them from anchor strikes and fishing activities over time.
- Burial methods may include jetting or plowing (most common), mechanical trenching, or shallow-water methods using a vehicle.
- The trench width would generally be about 1.3-3.3 ft with jetting and at least a 3.3 ft with plowing, and the installation tool may be fixed to a skid or tracks that slide along the seafloor and could also disturb the benthic habitat.
- Displaced sediments may extend about 12 feet on either side of the trench, based on studies related to the Block Island Wind Farm, and the trench would backfill naturally.
- The applicant has stated that the “least environmentally impactful” method will be used for each segment of installation.

Environment/habitat

Cable protection

- In areas where adequate burial depths cannot be achieved (most likely in areas of hard-bottom habitat), the cable may be protected with rocks, rock bags, concrete slabs, or half-shell pipes.
- The concrete slabs would be about 10 feet wide and include polyethylene fronds resembling seaweed to encourage sedimentation.
- Rock placements would be about 30 feet wide, and rock bag placements about 10 feet wide.
- The applicant aims to minimize the need for cable protection, but conservatively estimates that a total of about 3.4 miles of cable protection may be required for the project within Edgartown waters.

Table 4-1 Impacts to Land Under the Ocean from Installation of Two Offshore Export Cables within Edgartown Waters

Total Cable Length (statute miles)¹	24.8 (2 cables along 12.4 miles of the OECC)
Trench impact zone (acres) ²	9.9
Disturbance zone from tool skids/tracks (acres) ³	30.1
Direct dredging impacts (acres) ⁴	14.9
Anchoring (acres) ⁵	6.9
Cable Protection (acres) ⁶	4.0-12.1

¹ Route lengths provided in miles, with 1 mile = 0.87 nautical miles. This length is based on the length of OECC within Edgartown waters.

² Based on information from the Proponent’s engineers, depending on the tool used for cable installation (e.g., jet-plow, mechanical plow, etc.), the direct trenching impact area will vary between 1.3 and 3.3 feet (0.4 – 1 m) in width. The impact area provided in the table reflects the most conservative 3.3-foot (1-m) impact width.

³ Depending on the tool used for cable installation (e.g., jet-plow, mechanical plow), each skid/track on the installation tool will have the potential to cause minor disturbance along an area approximately 5 feet (1.5 m) wide, although the functional impact is expected to be minor. The impact area identified in the table reflects the temporary impact from two skids/tracks, and therefore assumes a 10-foot-wide (3-m-wide) disturbance zone.

⁴ Direct dredging impacts are calculated based on the estimated length of dredging and assumed sideslopes of approximately 1:3. Since the dredging area will overlap with the 3.3-foot (1-m) wide trench impact zone and 10-foot (3-m) wide skid disturbance zone, these areas have been subtracted from the dredging impact area to avoid double-counting impacts. See Section 4.2.4 for more details.

⁵ See Section 4.2.2.

⁶ Although the Proponent’s priority is to achieve sufficient burial depth and avoid cable protection, some cable protection may be required. The estimated length of cable protection in Edgartown waters is approximately 3.4 miles (5.5 km). The area of potential impact from cable protection is provided as a range, since the impact width may vary between 10 feet (3 m) and 30 feet (9 m) depending on the method utilized (see Section 4.2.3).

Table 4-2 Estimated anchoring impacts from installation of 2 offshore export cables in Edgartown waters.

Impact from Anchoring	
Length in Edgartown waters (miles)	24.8 (both cables combined)
Disturbance per anchoring set	3,008 sf
# of repositioned anchoring sets*	100
<i>Total temporary impact</i>	<i>6.9 acres</i>

* Assumes an anchored installation vessel may need to reposition every approximately 1,312 feet (400 m).

Environment/habitat

- The process would be the same for each of the two proposed cables, which would be spaced about 165-330 feet apart and to the west of the Vineyard Wind cable.
- The applicant expects up to three additional cables associated with New England Wind to be sited in the area at some time in the future. According to a draft Construction and Operations Plan dated October 2021, the three additional cables would be west of the ones currently proposed.
- The Notice of Intent states that the areas affected by the proposed cable burial are expected to recolonize in a relatively short amount of time.

Environment/habitat

- The Notice of Intent states that there would be unavoidable temporary impacts to offshore wetland resources (Land Under the Ocean and Land Containing Shellfish), which the applicant seeks to minimize through the siting of the cable route, along with installation methods and scheduling.
- Various time-of-year restrictions for the project have been proposed in discussion with federal and state agencies.
- Mitigation for unavoidable impacts on marine resources would be in accordance with the Massachusetts Ocean Management Plan and 301 CMR, and would include an Ocean Development Mitigation Fee, which is proposed in the FEIR.
- The applicant plans to work with state and federal agencies to develop a Benthic Habitat Monitoring Plan to document disturbance and recovery following construction. It is not clear at what point the plan would be carried out.
- The applicant has stated that it has conducted outreach with the Martha's Vineyard Fisherman's Preservation Trust (MVFPT), although no stakeholder groups have provided direct comments as part of the review process so far.

Cultural resources

- Archaeological review and monitoring for the project is required by the MA Board of Underwater Archaeological Resources (MBUAR), which has identified Nantucket Sound a sensitive resource area with shipwrecks and Native American resources.
- The project area includes Nantucket Sound Wampanoag Traditional Cultural Property, including features that were identified as part of the review for the Vineyard Wind cable, and Chappaquiddick Island Traditional Cultural Property.
- The applicant has stated that it has conducted outreach to the Mashpee and Aquinnah Wampanoag Tribes, and that both tribes were appreciative of the plans to use the same general corridor as the Vineyard Wind cable. However, no stakeholder groups have provided direct comments as part of the review process so far.
- Permits for reconnaissance / field investigation have been granted by MBUAR and Mass Historic.

Economic development

- The applicant has stated that the project would create economic opportunities for the region, including maritime activities and new jobs associated with offshore wind, although the Park City Wind project itself would not create any new jobs on the Island. As such there would also be no direct impacts on housing or traffic on the Island.
- The applicant has stated that as part of its Community Benefit Agreement with Vineyard Power, New England Wind has committed \$7.5 million over seven years (contingent on successful permitting of the Park City Wind project) to fund the Island's goal of eliminating fossil fuel use and becoming 100% renewable by 2040. The applicant has stated that this process will be incorporated into the Martha's Vineyard Climate Action Plan.
- The applicant has stated that it has conducted outreach with the Martha's Vineyard Fisherman's Preservation Trust (MVFPT), although no stakeholder groups have provided direct comments as part of the review process so far.

Large documents to be included in the record

- [Observing Cable Laying and Particle Settlement During the Construction of the Block Island Wind Farm, BOEM, 2017](#)
- [Vineyard Wind Connector 2: Analysis to Support Petition Before the Energy Facilities Siting Board Vol. 1, May 2020](#)
- [Vineyard Wind Connector 2: Analysis to Support Petition Before the Energy Facilities Siting Board Vol. 2, May 2020](#)
- [Vineyard Wind Connector 2: Environmental Notification Form, June 2020](#)
- [Draft New England Wind Construction and Operations Plan for Lease Area OCS-A 0534, Vol 1, October 2021](#)
- [Final Environmental Impact Report, New England Wind 1 Connector \(formerly Vineyard Wind Connector 2\), November 2021](#)
- [Massachusetts Ocean Management Plan, Vol. 1, December 2021](#)
- [Massachusetts Ocean Management Plan, Vol. 2, December 2021](#)