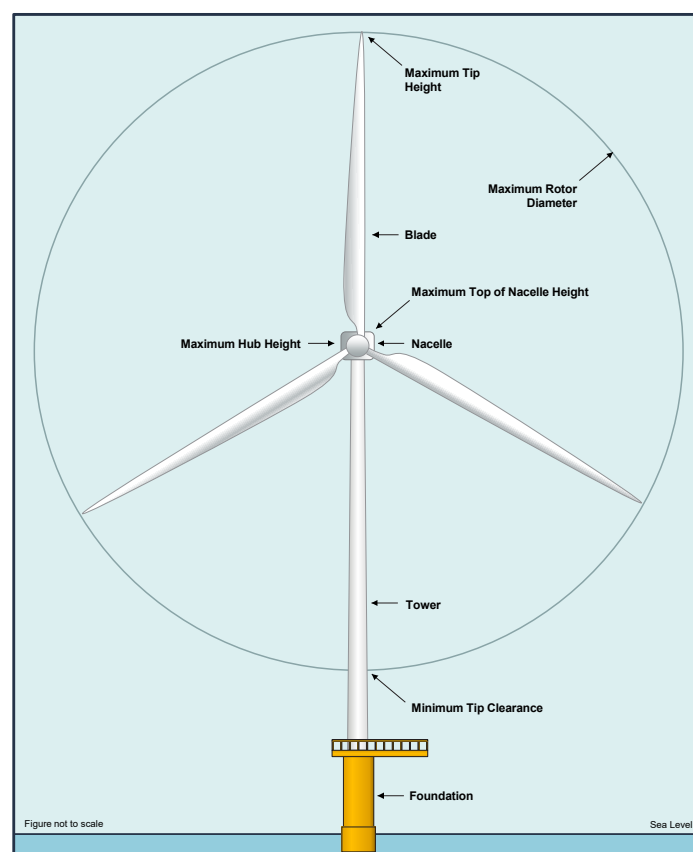


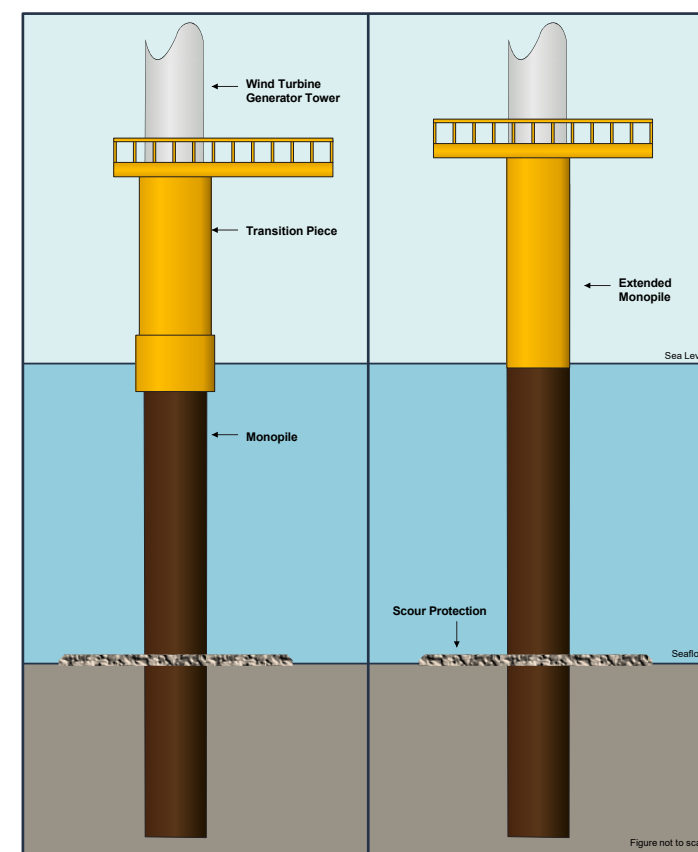
## Vineyard Mid-Atlantic

# Project Design Envelope

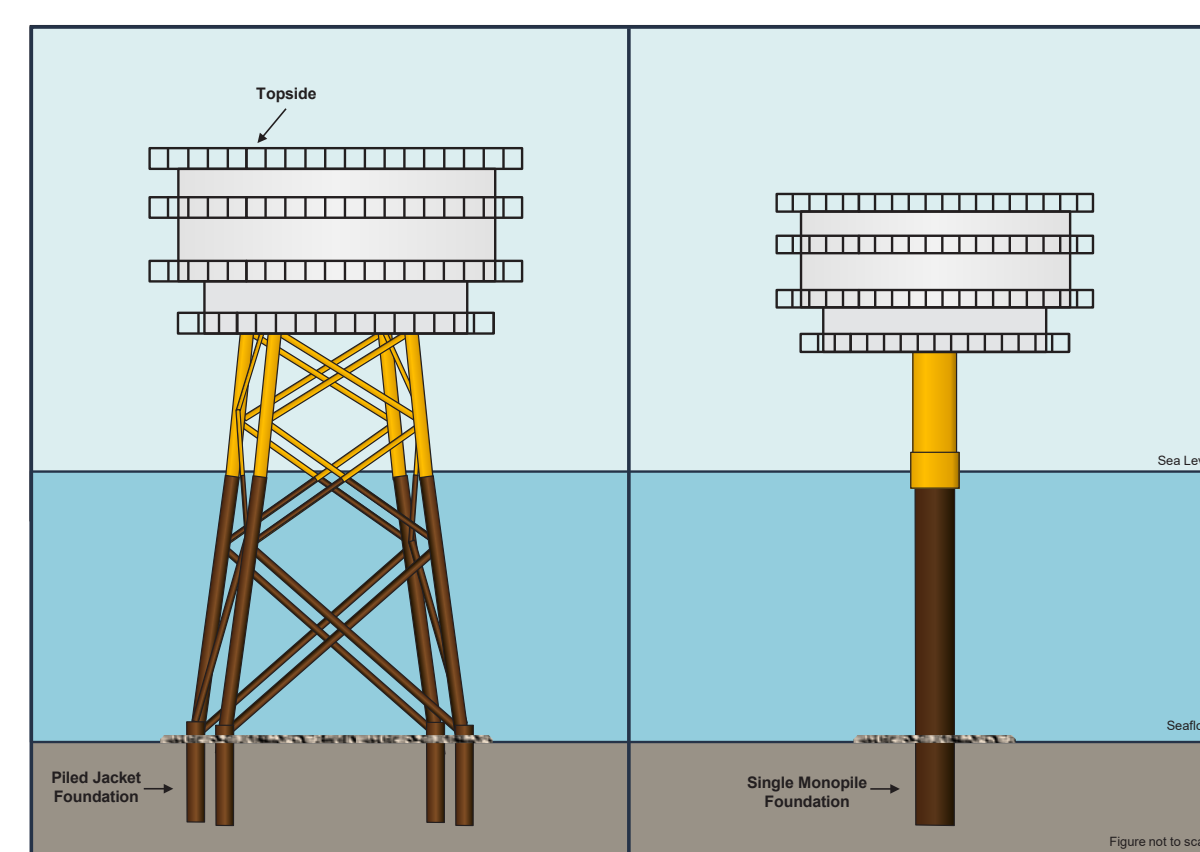
A project design envelope is a permitting approach that allows a lessee to define a range of design parameters within a Construction and Operations Plan. BOEM then analyzes the maximum impacts that could occur within the range of the design parameters — referred to as the “maximum design scenario.” Representative design parameters for the Vineyard Mid-Atlantic Project are outlined below. Refer to the Vineyard Mid-Atlantic Project Construction and Operations Plan for a detailed explanation of the project design envelope.



Wind Turbine Generator



Monopile Foundation



Electrical Service Platform

Parameter	Project Design Envelope
Maximum number of WTG/ESP positions	118
<b>Wind Turbine Generators</b>	
Maximum number of WTGs	117
Maximum rotor diameter	320 meters (m) (1,050 feet [ft])
Maximum tip height	355 m (1,165 ft)
Minimum tip clearance	27 m (89 ft)
<b>Electrical Service Platform(s)</b>	
Number of ESPs	1 or 2
Maximum topside height above Mean Lower Low Water <sup>1</sup>	70 m (230 ft)
<b>Foundations and Scour Protection</b>	
Maximum pile diameter	Monopiles (WTGs and ESPs): 13 m (43 ft) Piled jackets (ESPs): 4.25 m (14 ft)
Maximum area of scour protection	WTG monopiles: 7,238-11,660 square meters (m <sup>2</sup> ) (1.8-2.9 acres) <sup>2</sup> ESP monopiles: 7,238-11,660 m <sup>2</sup> (1.8-2.9 acres) <sup>2</sup> ESP piled jackets: 32,577 m <sup>2</sup> (8.1 acres)
<b>Offshore Cables</b>	
Maximum total inter-array cable length	296 km (160 NM)
Maximum total inter-link cable length	83 km (45 NM)
Number of offshore export cables	2–6 total cables (up to 6 HVAC cables, 2 HVDC cable bundles, or a combination of up to 4 HVAC cables/HVDC cable bundles)
Maximum total offshore export cable length <sup>3</sup>	594 km (321 NM)
Target burial depth beneath stable seafloor <sup>4</sup>	1.2 m (4 ft) in federal waters 1.8 m (6 ft) in state waters
<b>Onshore Facilities</b>	
Potential landfall site(s)	Up to two landfalls at Rockaway Beach, Atlantic Beach, and/or Jones Beach
Potential POIs	Uniondale Substation POI Ruland Road Substation POI Eastern Queens Substation POI
Maximum onshore cable route length	Routes to the Uniondale Substation POI: 29 km (18 mi) Routes to the Ruland Road Substation POI: 35 km (22 mi) Routes to the Eastern Queens Substation POI: 28 km (18 mi)
Onshore substation site envelopes <sup>5</sup>	Two onshore substations will be located within up to two of four onshore substation envelopes
Maximum number of onshore RCSs	2

**ESP** = electrical service platform; **HVAC** = high voltage alternating current; **HVDC** = high voltage direct current; **NM** = nautical mile; **POI** = point of interconnection; **RCS** = reactive compensation station; **WTG** = wind turbine generator

**Notes:**

- Height includes helipad (if present), but may not include antennae and other appurtenances.
- A range of the maximum area of scour protection is provided as detailed engineering of the foundations is ongoing.
- Includes the length of the offshore export cables within the Lease Area.
- Based on a preliminary Cable Burial Risk Assessment (CBRA), in a limited portion of the OECC within the Nantucket to Ambrose Traffic Lane, the offshore export cables will have a greater target burial depth of 2.9 m (9.5 ft) beneath the stable seafloor. The target burial depths are subject to change if the final CBRA indicates that a greater burial depth is necessary.
- Since the Proponent has not yet secured site control for the onshore substation sites, the Proponent has identified several potential “onshore substation site envelopes.”