



VINEYARD WIND

Draft

Vineyard Wind South Construction and Operations Plan

Volume III
Appendices

June 28, 2021

Submitted by
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Submitted to
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Draft Vineyard Wind South Construction and Operations Plan

Volume III Appendices

Submitted to:

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45600 Woodland Rd
Sterling, VA 20166

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In Association with:

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June 28, 2021

Appendix III-H.b

Historic Properties Visual Impact Assessment

Note: In June 2021, the geographic footprint of Vineyard Wind South was refined due to the lease segregation between Vineyard Wind South (Lease Area OCS-A 0534) and Vineyard Wind 1 (Lease Area OCS-A 0501). The name of the development was therefore updated from “501 South” to “Vineyard Wind South.” Additional refinements were also made to the Project Design Envelope for each Phase of Vineyard Wind South. These refinements are captured in COP Volume I and Sections 1 and 2 of COP Volume III. This Appendix will be updated to reflect these refinements as part of the September 2021 COP revision.

VINEYARD WIND 501 SOUTH HISTORIC PROPERTIES VISUAL IMPACT ASSESSMENT



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May 10, 2021



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1.0 INTRODUCTION

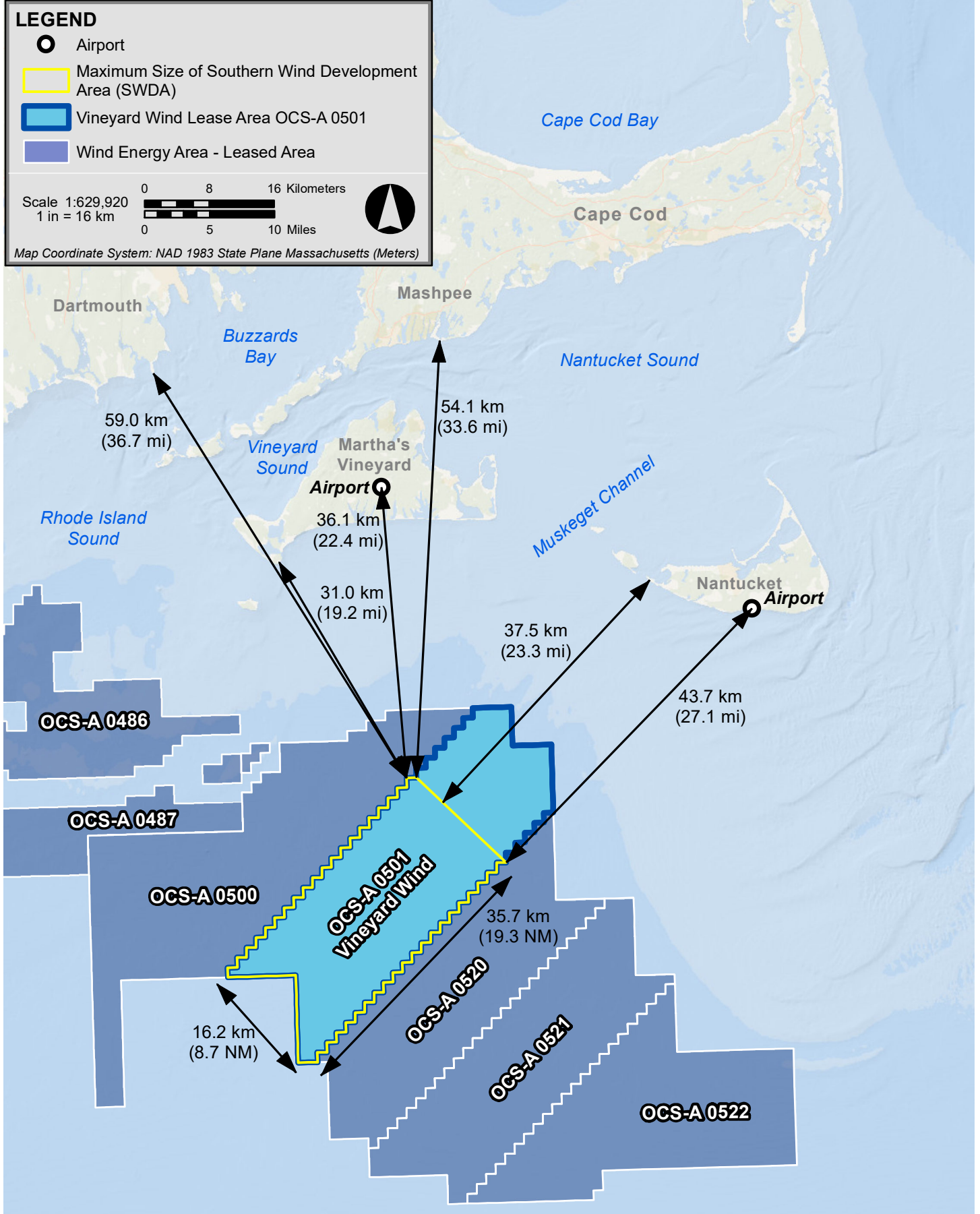
1.1 Purpose and Scope

Vineyard Wind, LLC (“Vineyard Wind”) proposes to construct, operate, and decommission offshore renewable wind energy facilities in the southern portion of its Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0501 along with associated offshore and onshore cabling, onshore substations, and onshore operations and maintenance facilities (“501 South”). 501 South will be developed in two Phases with a maximum of 140 wind turbine generator (WTG) and electrical service platform (ESP) positions located in the southern portion of the Lease Area (referred to as the Southern Wind Development Area [SWDA]). Up to four submarine offshore export cables will transmit electricity via the Offshore Export Cable Corridor from the SWDA to onshore transmission systems in the Town of Barnstable, Massachusetts on Cape Cod. Upon arriving at the shoreline of Barnstable, the offshore cables will transition to underground onshore cables to connect with new onshore substations in Barnstable (the onshore routes from the landfall sites to the onshore substation sites within which the onshore export cables will be installed are referred to as the “Onshore Export Cable Routes”). Underground onshore cables will also connect the new onshore substations with the West Barnstable Substation grid interconnection point (the onshore transmission routes that connect the onshore substations to the grid interconnection point are referred to as the “Grid Interconnection Routes”).

The SWDA may be 370 to 486 square kilometers (km²) (91,429 to 120,093 acres) in size depending upon the final footprint of Vineyard Wind’s first 800 megawatt (MW) project, Vineyard Wind 1 (also known as 501 North). At its closest point, the SWDA is just over 31 kilometers (km) (19 miles [mi]) from the southwest corner of Martha’s Vineyard and approximately 38 km (23 mi) from Nantucket. The WTGs and ESPs (offshore substations) in the SWDA will be oriented in an east-west, north-south grid pattern with one nautical mile (NM) (1.85 km) spacing between WTG/ESP positions. Figure 1-1 illustrates the location of 501 South.

The following Historic Properties Visual Impact Assessment (HPVIA) for 501 South is intended to assist BOEM and the Massachusetts Historical Commission (MHC), in its role as the State Historic Preservation Office, in their responsibilities in reviewing 501 South as described in the Construction and Operations Plan (COP) under Section 106 of the National Historic Preservation Act and the National Environmental Policy Act. Further information regarding potential effects to archaeological properties within the Area of Potential Effect (APE) are addressed in separately filed reports (see Appendix III-G and COP Volume II-D).

Accordingly, the APE has been developed to assist BOEM and MHC in identifying historic resources listed, or eligible for listing, in the National Register of Historic Places (National Register) in order to assess potential visual effects of 501 South. As described in Section 2.0, the APE has been broken into direct physical (construction-related) effects and direct visual effects.



Vineyard Wind 501 South

1.2 501 South Description

501 South will be developed in two Phases with a maximum of 140 WTG/ESP positions located in the SWDA (of these 140 positions, one to four may be occupied by ESPs). Each Phase of 501 South will be developed and permitted using a Project Design Envelope (the “Envelope”). This allows Vineyard Wind to properly define and bracket the characteristics of each Phase for the purposes of environmental review while maintaining a reasonable degree of flexibility with respect to the selection of key components, such as the WTGs, foundations, submarine cables, and offshore substations. To assess potential impacts and benefits to various resources, a “maximum design scenario,” or the design scenario with the maximum impacts anticipated for that resource, is established considering the Envelope parameters for each Phase that have the potential to cause the greatest effect. For some resources, the approach overestimates potential environmental impacts as the maximum design scenario is not the scenario Vineyard Wind is likely to employ.

In accordance with Federal Aviation Administration Advisory Circular 70/7460-1M, Vineyard Wind is required to paint the Phase 1 WTGs no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey; Vineyard Wind anticipates that the WTGs will be painted off-white/light grey to blend into the horizon. Unless Advisory Circular 70/7460-1M is modified before Phase 2 proceeds, Vineyard Wind will follow the same convention for Phase 2. The specific dimensions of the WTGs used in photo simulations from select viewpoints are presented in the Visual Impact Assessment (VIA) found in Appendix III-H.a and in Sections 3.2.1.1 and 4.2.1.1 of COP Volume I.

The Phase 1 and Phase 2 WTGs will be supported by foundations consisting of either monopiles, jackets, and/or bottom-frame foundations (Phase 2 only). Scour protection (i.e. a layer of stone or rock) may be placed around each foundation. Inter-array cables will connect strings of WTGs to the ESPs and the ESPs may be joined to one another via submarine inter-link cables. Then, offshore export cables will transmit electricity from the ESPs to shore at the landfall sites in the Town of Barnstable in Barnstable County. Up to four offshore export cables (two for Phase 1 and up to two for Phase 2) will transmit electricity from the SWDA to onshore transmission systems in the Town of Barnstable. Underground onshore export cables, which are expected to be located primarily within existing roadway layouts and utility rights-of-way, will connect each Phase from their respective landfall site to separate new onshore substations in Barnstable. Underground grid interconnection cables will then connect the onshore substations to the West Barnstable grid interconnection point. The Phase 1 onshore export cables and grid interconnection cables will be installed entirely underground and will not be visible, except for possibly at the Phase 1 Centerville River crossing (see Section 3.3.1.10.2 of COP Volume I). The Phase 2 onshore cables are also expected to be installed underground.

Phase 1 of 501 South—Phase 1 will be developed immediately south of the Vineyard Wind 1 project. The Phase 1 Envelope allows for 50 to 81 WTGs with generating capacities ranging from approximately 10–16 MW and one or two ESPs. Depending upon the capacity of the WTGs, Phase 1 will occupy 178 to 296 km² (43,985 to 73,143 acres) of the SWDA. The Phase 1 Envelope includes two WTG foundation types: monopiles and piled jackets.

The maximum height of the WTGs considered for Phase 1 of 501 South will measure approximately 319 meters (m) (1,047 feet [ft]) above Mean Lower Low Water (MLLW) at the peak of the blade tip. As shown in Appendix III-H.a, the supporting foundation/transition piece, WTG tower, and nacelle extends a maximum of 199 m (653 ft) above MLLW to the top of the nacelle. The rotor diameter formed by the three blades will be a maximum of 255 m (837 ft). The blades, which have a maximum width of 8 m (26 ft), will taper down from the base to the tip. For Phase 1, one or two ESPs are proposed and will have a maximum width of 45 m (148 ft), a maximum length of 70 m (230 ft), and a maximum height of 70 m (230 ft) above MLLW.

Phase 2 of 501 South—Phase 2, when constructed, will be immediately south of Phase 1 and will occupy the remainder of the SWDA. Phase 2 may include one or more projects, depending on the area available for development and market conditions. The footprint and total number of WTG and ESP positions in Phase 2 depends upon the final footprint of Phase 1; Phase 2 could contain up to 89 positions (up to two positions will be occupied by ESPs) within an area ranging from 74–305 km² (18,286–75,367 acres). The Phase 2 Envelope allows for WTGs with generating capacities ranging from approximately 10–19 MW and includes three general WTG foundation types: monopiles, jackets (with piles or suction buckets), or bottom-frame foundations (with piles, gravity pads, or suction buckets).

The maximum height of the WTGs considered for Phase 2 of 501 South will measure approximately 357 m (1,171 ft) above MLLW at the peak of the blade tip. For Phase 2, the supporting foundation/transition piece, WTG tower, and nacelle extends a maximum of 221 m (725 ft) above MLLW to the top of the nacelle. The rotor diameter formed by the three blades will be a maximum of 285 m (935 ft). The blades, which have a maximum width of 9 m (30 ft), will taper down from the base to the tip. The up to two Phase 2 ESPs will have a maximum width of 60 m (197 ft), a maximum length of 100 m (328 ft), and a maximum height of 70 m (230 ft) above MLLW.

For the purposes of assessing potential visibility, Vineyard Wind assessed the maximum potential size of the SWDA with a full buildout of 140 WTG/ESP positions in the SWDA (i.e. a full buildout of both Phases). This approach of assessing the full buildout of both Phases is consistent with Vineyard Wind’s intent to fully develop the entire SWDA. The total number of WTGs installed does not depend on the capacity (i.e. megawatts) of the WTGs that are selected; Vineyard Wind will use all of the 140 WTG/ESP positions that are technically viable.¹ Within the

¹ There are no scenarios in which more than 140 WTG/ESP positions will be used, even if shorter, smaller capacity WTGs are utilized.

maximum size of the SWDA, Vineyard Wind assessed the smallest area for Phase 1 (using the tallest Phase 1 WTGs) and the largest possible area for Phase 2 (using the tallest Phase 2 WTGs). The WTGs utilized for visual simulations are the tallest WTGs currently under consideration for each Phase.

2.0 DEFINING THE AREA OF POTENTIAL EFFECT

2.1 Direct Physical Effects

As stated in Section 1.0, direct physical effects are defined as construction-related impacts or areas of potential disturbance by 501 South. These areas can be further defined as terrestrial and marine impact areas.

- ◆ Terrestrial impacts of 501 South include: (1) the proposed underground Onshore Export Cable Routes and Grid Interconnection Routes² (it is expected that one Onshore Export Cable Route and one Grid Interconnection Route will ultimately be chosen for each Phase); (2) the proposed Phase 1 onshore substation site, including construction of the Phase 1 onshore substation, removal of the existing Knights Inn Motel, and work on Parcel #214-001 adjacent to the existing Eversource substation in West Barnstable. Therefore, the APE for direct physical effects onshore for Phase 1 is the Onshore Export Cable Routes, Grid Interconnection Routes, the onshore substation site, and Parcel #214-001. See Figures 2-2 and 2-3 for historic properties along potential Phase 1 Onshore Export Cable Routes, Grid Interconnection Routes, the Phase 1 onshore substation site, and Parcel #214-001.

The specific locations within Barnstable of the Phase 2 landfall site(s), Onshore Export Cable Route(s), onshore substation site(s), and Grid Interconnection Route(s) have not yet been determined. Additional information about the Phase 2 onshore transmission system(s) will be provided as part of the August 2021 COP revision. Effects to potential terrestrial archaeological resources as a result of construction-related activities are addressed in separate reports located in Appendix III-G.

- ◆ Marine impacts of 501 South include the portion of the SWDA containing the WTGs, ESPs, scour protection, inter-array cables, inter-link cables, and offshore export cables, as well as the Offshore Export Cable Corridor to the mainland. Therefore, the APE for direct physical effects offshore is the WTG and ESP locations (both in height and depth) as well as the seafloor to be affected by the offshore cables. Effects related to marine archaeological resources as a result of construction-related activities are addressed in a separate report located in COP Volume II-D.

Effects related to the visibility of built structures are addressed in the following section.

² The cables will be underground except possibly at the Centerville River crossing as described in Section 3.3.1.10.2 of COP Volume I.

2.2 Direct Visual Effects

The APE is defined in 36 CFR § 800.16 as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” The term “historic property” is further defined in 36 CFR § 800.16 as “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.”

In its review of Vineyard Wind 1, BOEM further clarified that the APE for direct visual effects is “the viewshed from which renewable energy structures, whether located offshore or onshore, would be visible”.³ Using the regulatory definition of APE in 36 CFR § 800.16 and the guidance from BOEM provided in its Finding of Adverse Effect for Vineyard Wind 1, the phrase “would be visible” is interpreted to mean that the APE shall include areas from which 501 South would, with some certainty, be visible and recognizable under a reasonable range of meteorological conditions.

2.2.1 Offshore APE (Direct Visual Effects)

For 501 South’s offshore components, the APE for direct visual effects includes areas where the WTGs and ESPs would be visible. Since the maximum height of the ESPs (70 m [230 ft]) is much less than the maximum nacelle height of the WTGs for Phase 1 and Phase 2 (199 m [653 ft] and 221 m [725 ft], respectively), the APE for the WTGs encompasses the APE for the ESPs. The offshore export cables from the SWDA to the mainland landfall sites as well as the inter-array and inter-link cables within the SWDA are underwater and will not have a visual impact.

Delineating the APE involved a three-step process:

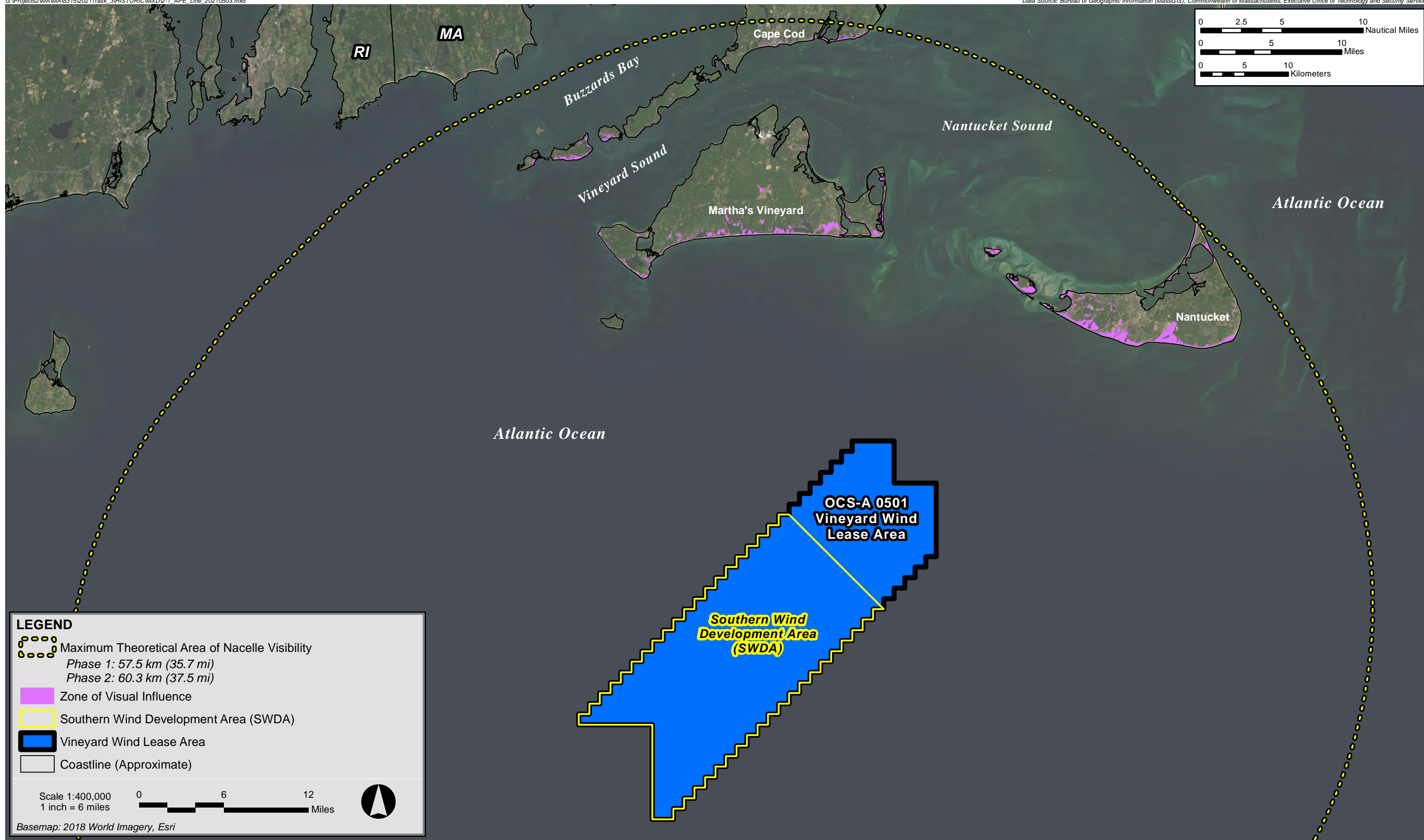
Step 1: Identifying the Maximum Theoretical Area of Nacelle Visibility. The first step in determining the APE includes identifying the maximum theoretical distance from which the 501 South WTG nacelles can be seen. As described in the VIA in Appendix III-H.a, the maximum theoretical distance that the top of the nacelles could potentially be visible is 57.5 km (35.7 mi) from the Phase 1 WTGs and 60.3 km (37.5 mi) from the Phase 2 WTGs. These two radii overlap with each other significantly as the Phase 2 WTGs, while taller, are farther offshore (see Figure 2-1). The farthest northward (toward shore) the maximum theoretical area of nacelle visibility extends is 57.5 km (35.7 mi) from the Phase 1 WTGs.

³ BOEM’s June 20, 2019 Finding of Adverse Effect for the Vineyard Wind Project Construction and Operations Plan.

The radii are based upon a mathematical formula that calculates the maximum possible distance from which a 1.8 m (6 ft) tall observer has a theoretical line of sight to a WTG (in clear air conditions) due to the curvature of the earth given the maximum nacelle heights. The top of the nacelle has been chosen for the maximum theoretical visibility assessment over the blade tip height due to the greater possibility of observing the nacelle and support structure over great distances as opposed to the narrow blades. Considering the slender form and low contrast coloration of the rotor blades combined with atmospheric conditions, views of the WTG above the nacelle are unlikely to be detected by coastal observers beyond the maximum distance of theoretical nacelle visibility.

It is important to note that the maximum theoretical area of nacelle visibility identifies areas where there is a theoretical line of sight to 501 South and does not identify the degree to which WTGs may be visible, if at all, or the number of WTGs that may be visible from any affected location. The maximum theoretical area of nacelle visibility also does not consider the mitigating factors of atmospheric visibility, the limits of visual acuity, and ocean waves, or the reduction in apparent size of the WTG over increasing distance. The maximum theoretical area of nacelle visibility includes portions of the following locations: Martha's Vineyard (and adjacent Noman's Land), Nantucket (and its adjacent outlying islands), Nantucket Sound, Cape Cod, and the Elizabeth Islands.

Step 2: Determining the Zone of Visual Influence Using GIS Viewshed Calculation. The second step in determining the APE includes identifying the Zone of Visual Influence (ZVI), which is the geographic area within the maximum theoretical area of nacelle visibility where 501 South could potentially be visible taking into account intervening topography, vegetation, and built structures. The ZVI represents the Preliminary APE. The ZVI within the 57.5 km (35.7 mi) and 60.3 km (37.5 mi) radii (i.e. within the maximum theoretical area of nacelle visibility) was generated using a Geographic Information System (GIS) viewshed calculation utilizing Light Detection and Ranging (LiDAR) data. The GIS viewshed calculation identifies the geographic areas where a theoretical, direct line of sight exists to the maximum blade tip heights considering the curvature of the earth (with atmospheric refraction) and accounting for obstructions (topography, built structures, and vegetation). Two output layers were generated: one identifying land areas with theoretical visibility to the top of nacelle for the Phase 1 and Phase 2 WTGs and a second identifying land areas with visibility to the blade tip (at the apex of rotation) of the Phase 1 or Phase 2 WTGs. Thus, the ZVI includes areas of theoretical visibility of both the nacelle and blade tips, but is cropped to the maximum theoretical area of nacelle visibility (see Figure 2-1).



Vineyard Wind 501 South

Step 3: Refining the ZVI (Preliminary APE) to Include Areas Where 501 South Would be Visible (APE). In its Finding of Adverse Effect for Vineyard Wind 1 (dated June 20, 2019), BOEM clarified that the APE for direct visual effects is “the viewshed from which renewable energy structures, whether located offshore or onshore, would be visible” (BOEM 2019). The phrase “would be visible” is interpreted to mean that the APE shall include areas from which 501 South would, with some certainty, be visible under a reasonable range of meteorological conditions. Utilizing photo simulations and field observations, the ZVI (i.e. the Preliminary APE) was further refined to those areas where 501 South would be visible (see Figures 3-1 and 3-2). For example, a view of the WTGs is theoretically possible from the southern shore of Cape Cod in the vicinity of South Cape Beach in Mashpee, which is 55.2 km (34.3 mi) from the nearest WTG. However, because atmospheric haze reduces visibility, maximum theoretical viewing distances typically exceed what is experienced in reality. Moreover, due to the earth’s curvature, the presence of ocean waves that obscure objects very low on the horizon, and the limits of visual acuity, the WTGs are likely indiscernible from vantage points on Cape Cod and the mainland and therefore would not be visible. Similarly, views from the Elizabeth Islands are too distant and would be affected by obscuring environmental conditions and distance.

It is expected that 501 South “would be visible” from the following locations:

- ◆ Photo simulations and field observations from Martha’s Vineyard (see photo simulations B-1a to B-4e and C-1a to C-2d included in the VIA in Appendix III-H.a and the photographs in Attachment A of this report) indicate that 501 South “would be visible” from portions of Martha’s Vineyard (and adjacent Noman’s Land).
- ◆ Photo simulations and field observations from Nantucket (see photo simulations B-5a to B-8c and C-3a-C-3d included in Appendix III-H.a and the photographs in Attachment A of this report) indicate that 501 South “would be visible” from portions of Nantucket (and its adjacent outlying islands).
- ◆ Photo simulations and field observations from Martha’s Vineyard and Nantucket also indicate that 501 South “would be visible” from a limited portion of Nantucket Sound.

Although discontinuous across the different islands, these areas serve as the APE (see Figures 3-1 and 3-2). Any historic property within the APE that is included in, or eligible for inclusion in, the National Register is identified in Section 3.0 of this report.

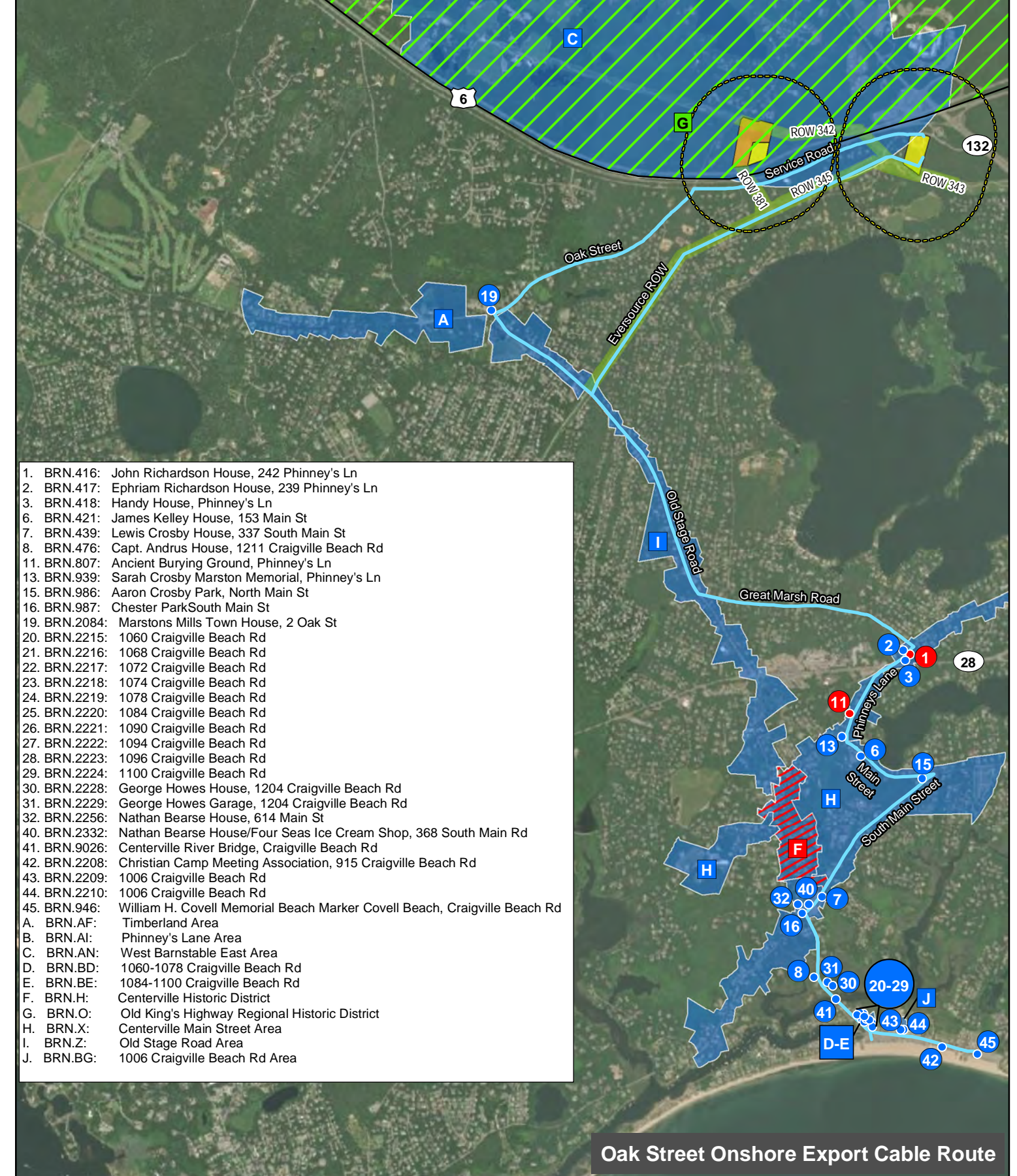
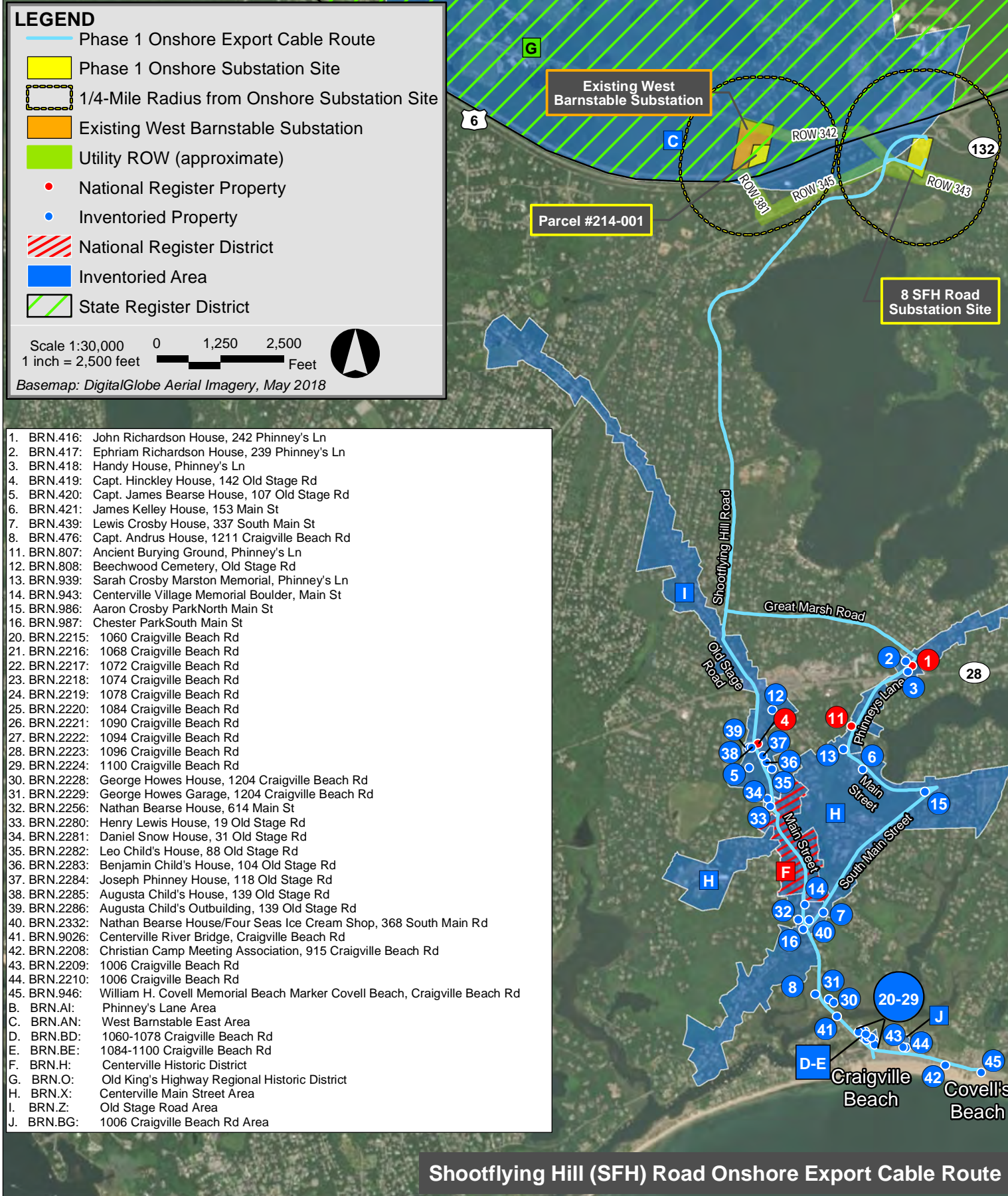
2.2.2 Onshore APE (Direct Visual Effects)

For the onshore portions of 501 South, the APE for direct visual effects is related to the new Phase 1 onshore substation (see Figure 2-2 and Figure 2-3). For the onshore substation site at 8 Shootflying Hill Road, it was assumed that a 0.4 km (0.25 mile) buffer surrounding the site would encompass the potential visual effects from construction of the Phase 1 onshore substation, including removal of the existing Knights Inn Motel, and the presence of onshore substation equipment. Additionally, a 0.4 km (0.25 mile) buffer surrounding Parcel #214-001 (which may

also contain some onshore substation equipment) was assumed to address potential visual effects from activities on Parcel #214-001. Together, these two areas constitute the onshore APE for direct visual effects.




The proposed Phase 1 onshore substation site and Parcel #214-001 are both surrounded by mature vegetation limiting the visibility of the proposed work. Additionally, Vineyard Wind plans to plant a vegetated screening on the western and northern boundaries of the onshore substation site; the vegetated screening along the western edge would provide substantial visual screening. The eastern boundary may be utilized for part of the perimeter access drive, and the abutting land is undeveloped wooded land. Since the southern property line extends into ROW #343, no vegetated screening will be possible in that location. Substation construction may require initial clearing of the entire site, but revegetation along the onshore substation site boundaries would occur outside of the substation boundary/screening wall. Photo simulations of the Phase 1 onshore substation are provided in Appendix E of Appendix III-H.a.

The underground onshore cables for Phase 1 are proposed to be placed largely within existing roadways and utility rights-of-way except possibly at the Centerville River crossing as described in Section 3.3.1.10.2 of COP Volume I, where a utility bridge may be required. Therefore, the Phase 1 onshore cables and onshore substation have limited potential for visual impacts. The specific location(s) of the Phase 2 onshore substation site(s) will be determined at a future date.

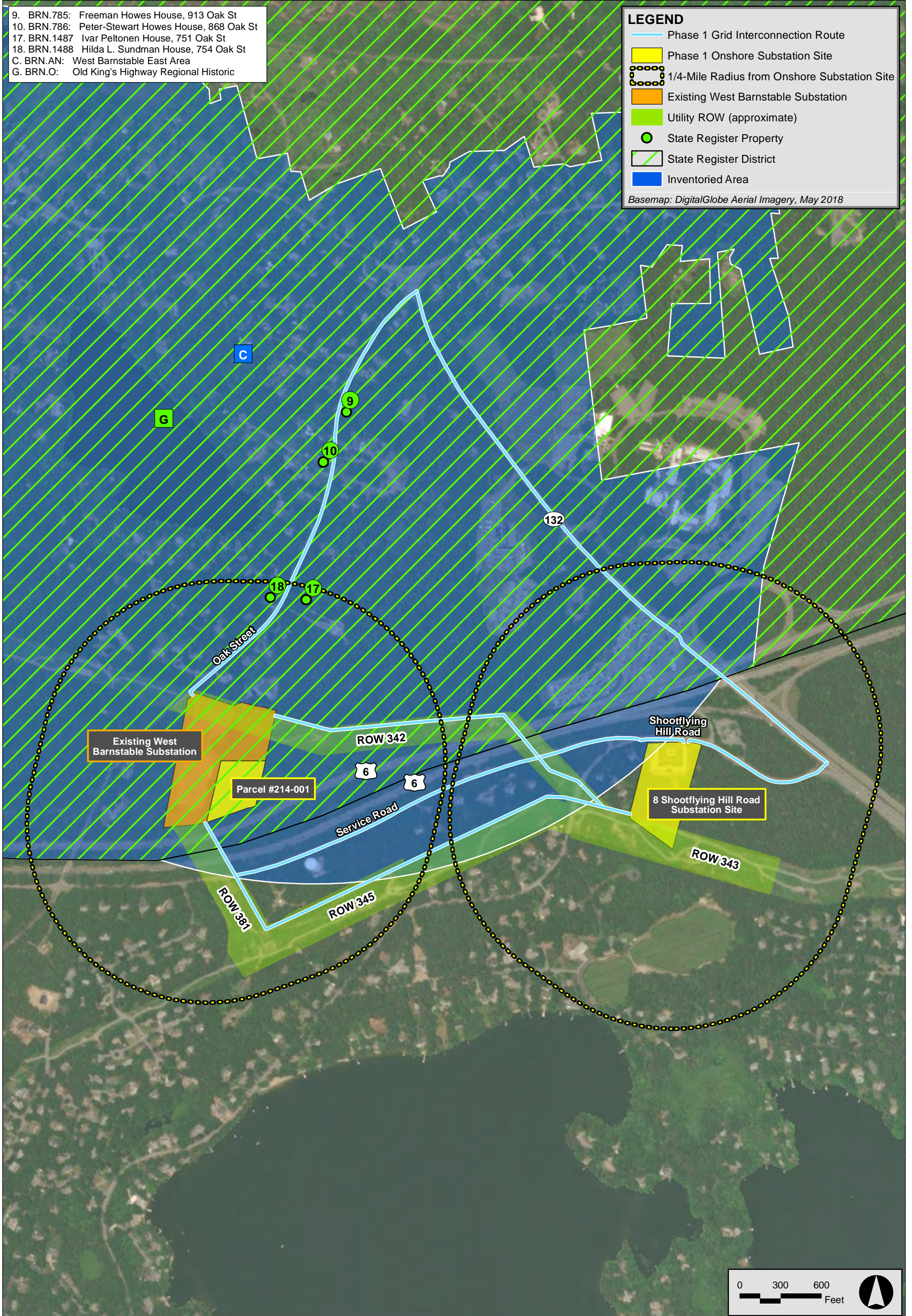


- 9. BRN.785: Freeman Howes House, 913 Oak St
- 10. BRN.786: Peter-Stewart Howes House, 868 Oak St
- 17. BRN.1487 Ivar Peltonen House, 751 Oak St
- 18. BRN.1488 Hilda L. Sundman House, 754 Oak St
- C. BRN.AN: West Barnstable East Area
- G. BRN.O: Old King's Highway Regional Historic

LEGEND

-  Phase 1 Grid Interconnection Route
-  Phase 1 Onshore Substation Site
-  1/4-Mile Radius from Onshore Substation Site
-  Existing West Barnstable Substation
-  Utility ROW (approximate)
-  State Register Property
-  State Register District
-  Inventoried Area

Basemap: DigitalGlobe Aerial Imagery, May 2018



3.0 IDENTIFICATION OF HISTORIC PROPERTIES

3.1 Historic Property Identification Methodology

Historic maps, the State and National Registers, and the MHC’s Inventory of Historic and Archaeological Assets of the Commonwealth (the “Inventory”) were consulted to generate the list of potential historic properties evaluated within the APE. In addition, field surveys of the APE were conducted to identify any previously undocumented historic properties. All identified properties were evaluated for their eligibility for listing on the National Register of Historic Places. Those properties that were evaluated and did not meet National Register eligibility were given no further consideration. Properties determined to be historic are described further below in Sections 3.2 through 3.4.

The tables of historic properties within the APE are organized by geographic location. Within each table for a specific geographic location, the index of historic properties includes relevant photo simulations where applicable. Photo simulations referenced in this document are included in Appendices B and C of Appendix III-H.a. In some cases, relevant photo simulations may not be from the actual property, but are from another nearby location with a similar viewshed of the SWDA. Existing condition photographs for select locations on Martha’s Vineyard and Nantucket are provided in Attachment A of this report as a reference for documenting existing topography and vegetation and were taken as part of field verifying the APE.

3.2 Martha’s Vineyard Historic Properties Within the APE

The following is a list of historic properties within the APE on Martha’s Vineyard. All properties listed are shown on Figure 3-1.

No historic structures, buildings, or landscapes have been identified on Noman’s Land.

Table 3-1 Index of Martha’s Vineyard Historic Properties Within the APE

| Property Name | MHC# | Address | Designation / Eligibility Recommendation ¹ |
|--------------------------------|---------|------------------------------|---|
| Gay Head Lighthouse | GAY.900 | 15 Aquinnah Circle, Aquinnah | NRIND (Moved in 45.7 m [150 ft] in 2015, still listed). Significant under Criteria A and C as a historic maritime structure and aid to navigation. |
| Gay Head – Aquinnah Shops Area | GAY.B | Aquinnah Circle, Aquinnah | INV Area / NRDIS eligible. Significant under Criteria A as a collection of mid-20 th century roadside shops associated with the rise of the automobile era and increased tourism at Gay Head Cliffs. Buildings retain historic design integrity and character. |

Table 3-1 Index of Martha’s Vineyard Historic Properties Within the APE (Continued)

| Property Name | MHC# | Address | Designation / Eligibility Recommendation |
|---|-------------|---|--|
| Edwin Vanderhoop Homestead | GAY.40 | 35 South Road, Aquinnah | NRIND. Significant under Criteria A and C as an example of Victorian Eclectic style and its association with the Vanderhoop family, a prominent local family. |
| Elijah Smith House | CHL.39 | 9 Quitsa Lane, Chilmark | INV / NRDIS eligible. Significant under Criteria A and C as an 18 th century Cape style farmhouse with connections to Revolutionary War raid. Building retains its historic design integrity and character. |
| Nathan Mayhew Gravestone | CHL.802 | 1 Quitsa Lane | INV / NRDIS eligible with CHL.39 as a district. Significant under Criteria A and C as an 18 th century grave marker. Headstone has death’s head motif. Contributes to 18 th century setting of CHL.39. |
| Captain Ephraim Poole Farm | CHL.B | 14 Menemsha Crossroad, Chilmark | INV Area / NR IND eligible. Significant under Criteria A and C as a 19 th century farm complex with Greek Revival house, barns privy, corn crib, and stone walls. |
| Martha’s Vineyard American Revolution Battlefield | CHL.E | Centered Along South Road in Chilmark | INV Area / NRDIS eligible. Significant under Criteria A and C as a collection of historic properties dating from the 18 th century associated with the 1778 British raid, with later 19 th and 20 th century infill properties. |
| Vincent Mayhew House | CHL.A | 451 South Road, Chilmark | NRDIS |
| Captain Samuel Hancock House | CHL.35 | 141 Quansoo Road, Chilmark | INV / MHC determined NRIND eligible. |
| Simon Mayhew House | CHL.5 | 34 Blacksmith Valley Rd | INV / NRIND eligible. Significant under Criterion A and C as an example of an early 18 th century Cape and associated with the Mayhew family and development of Chilmark as an agricultural community. |
| Edgartown Village Historic District | EDG.A | Roughly bound by Katama Bay Main Street, Peases Point Way, Planting Field Way | NRDIS |
| Edgartown Village Historic District | EDG.B | Roughly bound by Katama Bay Main Street, Peases Point Way, Planting Field Way | SR / NRDIS eligible. Significant under Criteria A and C as a collection of early 20 th century residences and pattern of development in Edgartown. Contributes to a potential boundary expansion of EDG.A. |

Table 3-1 Index of Martha’s Vineyard Historic Properties Within the APE (Continued)

| Property Name | MHC# | Address | Designation / Eligibility Recommendation |
|------------------------------------|---------|---|--|
| Chappaquiddick Island | N/A | Roughly encompasses the Island of Chappaquiddick, Norton Point in Edgartown, and Katama Bay | Eligible TCP |
| Cape Poge Light | EDG.900 | Northeastern tip of Chappaquiddick Island | NRIND |
| Vineyard Sound and Moshup’s Bridge | N/A | Roughly encompasses Nomans Island, Vineyard Sound, and western portion of Martha’s Vineyard | Eligible TCP |

Notes:

Designation Legend:

NRIND = Individually listed on the National Register of Historic Places,

NRDIS = National Register of Historic Places Historic District,

SR = State Register of Historic Places,

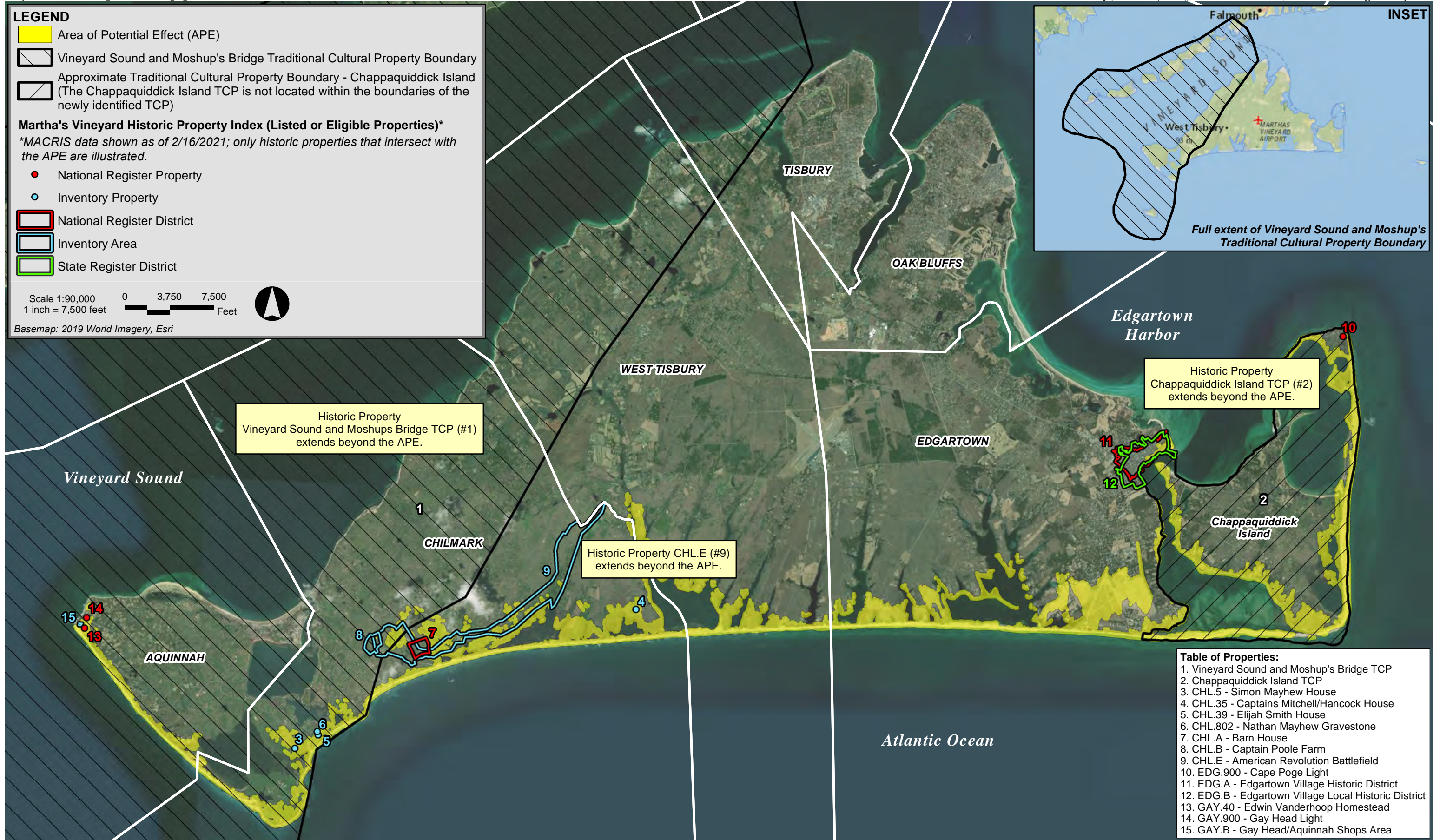
INV = Individually included in the Inventory of Historic and Archaeological Assets of the Commonwealth,

INV Area = Area included in the Inventory of Historic and Archaeological Assets of the Commonwealth,


TCP = Traditional cultural property.

3.3 Nantucket, Tuckernuck, and Muskeget Islands Historic Property Within the APE


The entirety of the islands of Nantucket, Tuckernuck, and Muskeget are listed together as a National Historic Landmark District. Each island is identified separately by MHC, as shown in the table below. All properties listed are shown on Figure 3-2. While the APE encompasses different areas and percentages of each island, they constitute one historic property potentially affected by 501 South. Although all three islands are part of the same National Historic Landmark District, each is evaluated separately for an effects determination in Section 5.3 due to their differing size, location, and topography.



LEGEND

 Area of Potential Effect (APE)

Nantucket Historic Property Index (Listed or Eligible Properties)*
 *MACRIS data shown as of 2/16/2021; only historic properties that intersect with the APE are illustrated.

 National Historic Landmark (Nantucket Historic District comprises all three islands)

Scale 1:84,000
 1 inch = 7,000 feet

0 3,500 7,000 Feet

Basemap: 2018 World Imagery, Esri



Table 3-2 Index of Nantucket, Tuckernuck, and Muskeget Islands Historic Property Within the APE

| Property Name | MHC# | Address | Designation / Eligibility Recommendation ¹ |
|-----------------------------|-------|-------------------|---|
| Nantucket Historic District | NAN.D | Nantucket Island | NHL |
| Nantucket Historic District | NAN.F | Tuckernuck Island | NHL |
| Nantucket Historic District | NAN.D | Muskeget Island | NHL |

Notes:

Designation Legend:

NHL = National Historic Landmark.

3.4 Portion of Nantucket Sound Historic Property Within the APE

Nantucket Sound has been found eligible for listing on the National Register by the Keeper of the National Register. A small portion of Nantucket Sound is within the visual APE for the SWDA where there is a direct line of sight between the islands of Nantucket and Martha’s Vineyard. As described in Section 2.2, the offshore export cables that travel through Nantucket Sound are underwater and will not have a visual impact.

Table 3-3 Index of Nantucket Sound Historic Property Partially Within the APE

| Property Name | MHC# | Address | Designation / Eligibility Recommendation ¹ |
|-----------------|---|---------|---|
| Nantucket Sound | Varies, and includes YAR.917, BRN.9072, DEN.930, FAL.973, HRW.918, EDG.907, and OAK.902 | N/A | NRDOE |

Notes: Designation Legend:

NRDOE = Determined eligible for inclusion in the National Register of Historic Places

4.0 ENVIRONMENTAL FACTORS AFFECTING VISIBILITY

4.1 Earth's Curvature

As described further in Section 3.2 of Appendix III-H.a, the distance from the SWDA to the closest shoreline (over 31 km [19 mi]) results in the Earth's curvature creating a visual obstruction that prevents visibility of the SWDA in its entirety from some locations. Elsewhere, the Earth's curvature creates a partial obstruction. There are no land-based vantage points from which a WTG or ESP can be viewed in its entirety.

4.2 Meteorological Conditions, WTG Color, and Nighttime Lighting

Visibility is dependent on numerous meteorological factors, including the atmosphere itself, haze, fog, various forms and intensities of precipitation, and even more obscure events such as smoke or dust storms. Offshore, visibility is also reduced by wind and wave-induced sea spray and salts.

In addition, low-contrast paint will reduce the daytime visibility of the WTGs. As described in Section 1.2, Vineyard Wind anticipates painting the WTGs off-white/light grey to reduce contrast with the sea and sky and thus minimize daytime visibility of the WTGs. The conservative threshold for visibility in meteorological analyses is "the greatest distance at which an observer can just see a black object viewed against the horizon sky" (see Section 3.3 of Appendix III-H.a). The Phase 1 and Phase 2 WTGs will not be black; instead, the expected off-white/light grey color will be highly compatible with the hue, saturation, and brightness of the background sky. This lack of contrast between the WTGs and the background means that the percentage of the time the structures might be visible is greatly reduced.

Vineyard Wind expects to use an Aircraft Detection Lighting System (ADLS) that automatically activates all aviation obstruction lights when aircraft approach the Phase 1 WTGs, subject to BOEM approval. For Phase 2, Vineyard Wind would expect to use the same or similar approaches to reduce lighting used for Vineyard Wind 1 and/or Phase 1, including the use of an ADLS. The lack of lighting during normal operation will substantially reduce the frequency and duration of nighttime visibility of the WTGs. Based on historical use of the airspace, it is estimated that the aviation obstruction lights on both the nacelle and tower (if needed) will be activated for less than one hour per year (less than 0.1% of the nighttime hours) (see Appendix III-K). The effect of nighttime lighting is acknowledged as part of the overall visibility and visual effect of the SWDA; however, the effect of nighttime lighting is substantially minimized through the use of ADLS. As stated previously, meteorological conditions will serve to obscure or block view of the SWDA providing additional minimization of the effect of nighttime lighting.

Using historical weather data recorded at the Vineyard Haven Martha's Vineyard Airport and the Nantucket Memorial Airport, an average visibility from these locations was determined. The data examined was from an 11-year period (2006–2016) from the National Climatic Data Center.

Recorded data included temperature, humidity, windspeed, and visibility. Visibility measurements from meteorological stations at airports are typically recorded in intervals ranging from ¼ to 10 statute miles (0.4 to 16 km); visibilities greater than 10 statute miles are reported as 10 miles.⁴

Table 4-1 provides the percentage of time that daytime and nighttime unaided visibility is 16 km (10 mi) or greater, taking into account that an ADLS reduces expected nighttime lighting to less than 0.1% of annual nighttime hours and that unlit objects will not be visible beyond 16 km (10 mi) at night.⁵

Table 4-1 Frequency of Reported Visibility Ranges from Martha’s Vineyard and Nantucket Airports (Not Equivalent to Visibility of 501 South from the Shoreline)

| Percentage of Time Airport Visibility is 16 km(10 mi) or Greater | | | | | | |
|--|--------------------|--------|--------|--------|------|--------|
| Location | Time | Winter | Spring | Summer | Fall | Annual |
| Martha's Vineyard Airport | Day | 80% | 80% | 77% | 83% | 80% |
| | Night ¹ | 0% | 0% | 0% | 0% | 0% |
| | Total ² | 37% | 47% | 45% | 38% | 42% |
| Nantucket Airport | Day | 71% | 69% | 66% | 75% | 70% |
| | Night ¹ | 0% | 0% | 0% | 0% | 0% |
| | Total ² | 33% | 41% | 38% | 35% | 37% |

Notes:

1. Unlit objects will not be visible at greater than 16 km (10 mi) at night. The use of an ADLS reduces expected nighttime lighting to less than one hour per year, which is less than 0.1% of annual nighttime hours and is rounded to 0% in this table.
2. Seasonal results adjusted to reflect daylight hours.

As shown in the table above, when taking into account the use of an ADLS, on average, visibility from Martha’s Vineyard and Nantucket is 16 km (10 mi) or greater for 42% and 37% of the year, respectively. Given that the nearest shoreline vantage point is over 31 km (19 mi) away from the nearest WTG, it is reasonable to conclude that 501 South will be obscured from coastal vantage points on Martha’s Vineyard and Nantucket more frequently than 42% and 37% of the time, respectively, due to the limitations of visibility data available from the airports. Furthermore, these on-land visibility measurements do not account for wind and wave-induced sea spray and salts that reduce visibility.

⁴ Airports provide visibility data for the benefit of pilots, who are only interested in whether visibility is limited to less than 16 km (10 mi).

⁵ See Meteorological Report Appendix D to Appendix III-H.a for further information.

Due to the historic significance of three historic maritime properties (the Gay Head and Cape Poge Lighthouses [listed on the National Register] on Martha’s Vineyard and the Nantucket Historic District), additional analysis of the effects of meteorological conditions on visibility was performed for these two historic properties. As indicated above, one key limitation of the reported visibility data is that airports do not report visibility greater than 16 km (10 mi). To address this limitation, BOEM’s Outer Continental Shelf Study BOEM 2017-037, *Visualization Simulations for Offshore Massachusetts and Rhode Island Wind Energy Area Meteorological Report*, presents a method to calculate visibility distances past 16 km (10 mi) by performing a regression analysis of reported airport visibilities and relative humidity observations.

Table 4-2 below applies BOEM’s methodology to calculate the visibility specific to three historic sites using Martha’s Vineyard and Nantucket airport data (visibility and relative humidity), taking into account the use of an ADLS. For Martha’s Vineyard, Table 4-2 shows the amount of time that visibility is greater than 39.6 km (24.6 mi) for Gay Head Lighthouse and 41.9 km (26.1 mi) for Cape Poge Light, which are the distances from these lighthouses to the closest proposed structures (i.e. WTG or ESP position).⁶ For Nantucket, Table 4-2 shows the amount of time visibility is greater than 37.4 km (23.3 mi), which is the distance from the closest location within the Nantucket Historic District (at Tuckernuck Island) to the closest proposed structures.

Table 4-2 Gay Head Lighthouse, Cape Poge Light, and Nantucket Historic District Visibility Estimates using Algorithm in BOEM 2017-037

| Percentage of Time Visibility is ≥ 37.4 km (23.3 miles) for Nantucket Historic District, ≥ 39.6 km (24.6 miles) for Gay Head Lighthouse, and ≥ 41.9 km (26.1 miles) for Cape Poge Light using BOEM Methodology | | | | | | |
|---|--------------------|--------|--------|--------|------|--------|
| Location | Time | Winter | Spring | Summer | Fall | Annual |
| Martha's Vineyard (Gay Head Lighthouse) | Day | 48% | 41% | 26% | 40% | 38% |
| | Night ¹ | 0% | 0% | 0% | 0% | 0% |
| | Total ² | 22% | 24% | 15% | 18% | 20% |
| Martha's Vineyard (Cape Poge Light) | Day | 45% | 38% | 23% | 36% | 35% |
| | Night* | 0% | 0% | 0% | 0% | 0% |
| | Total** | 21% | 22% | 13% | 17% | 18% |
| Nantucket (Closest Point on Nantucket Historic District) | Day | 39% | 28% | 15% | 33% | 28% |
| | Night ¹ | 0% | 0% | 0% | 0% | 0% |
| | Total ² | 18% | 16% | 9% | 15% | 15% |

Note:

1. Unit objects will not be visible at less than 16 km (10 mi) at night. The use of an ADLS reduces expected nighttime lighting to less than one hour per year, which is less than 0.1% of annual nighttime hours and is rounded to 0% in this table.
2. Seasonal results adjusted to reflect daylight hours.

⁶ The measurements in Table 4-2 are provided from the coastal location to the nearest WTG or ESP position within the SWDA boundary. The measurements in Section 1.1 are provided from the coastal location to the closest part of the SWDA boundary.

Table 4-2 shows that, when taking into account the proposed use of an ADLS, on average, 501 South's structures **might** be visible 20% of the time from Gay Head Lighthouse and **might** be visible 18% of the time from Cape Poge Light. Additionally, Table 4-2 shows that, when taking into account the proposed use of an ADLS, on average, 501 South's structures **might** be visible 15% of the time from the **closest** location within the Nantucket Historic District. Again, because of sea spray, low-contrast paint color, and other factors, the actual amount of time that structures would be visible is lower.

4.3 Distance and Visibility

On Martha's Vineyard and Nantucket, coastal vantage points for WTGs within the SWDA range from 31–33 km (19–20 mi). From all land-based vantage points, 501 South would appear in the far background distance zone (as defined in Section 3.1 of Appendix III-H.a) where elements lose detail and become less distinct, atmospheric perspective changes colors to blue-greys, and surface texture characteristics are lost. As an observer moves along the coast farther from the SWDA, the smaller the WTGs will appear. Exclusive of the effect of earth's curvature and meteorological visibility, viewing a WTG at a distance of 31 km (19 mi) is roughly equivalent to viewing a pencil at a distance of about 27 m (87 ft). Similarly, viewing a blade with a maximum width of 9 m (26 ft) at that distance is roughly equivalent to the width of a drinking straw viewed at 27 m (100 ft).

5.0 ASSESSING EFFECTS ON HISTORIC PROPERTIES

5.1 Application of the Criteria for Determining Adverse Effects Methodology

Each historic property identified in Section 3.0 was evaluated for its eligibility for listing on the National Register, including specific eligibility criteria. The potential effects of 501 South were assessed against the eligibility criteria, including the history and historic use of the property as well as architectural and artistic integrity and setting, to determine on which properties 501 South would have an adverse effect. Properties were evaluated considering both daytime and nighttime visibility of the SWDA. Visibility of the SWDA alone is not sufficient to find an adverse effect as in some cases, the present ocean view from a property is a modern condition. Further, the change in the ocean view for some properties does not affect the criteria for which it is considered historic.

5.2 Application of the Criteria for Determining Adverse Effects to Martha's Vineyard Historic Properties

Gay Head Lighthouse (GAY.900) 15 Aquinnah Circle, Aquinnah

The Gay Head Lighthouse, which is located on the southwestern most portion of Martha's Vineyard, is listed on the National Register and is significant under Criteria A and C as a historic maritime structure and aid to navigation. Constructed in 1855–1856, the Gay Head Lighthouse was once one of the 10 most important lights on the Atlantic Coast and originally contained one of the country's first Fresnel lenses. The 14 m (45 ft) tall brick and sandstone tower meets Criterion A for its association with the island's maritime history as an aid to navigation. The structure also meets Criterion C as an example of a 19th century maritime structure constructed of bricks utilizing the clay from the Gay Head Cliffs. Although the Gay Head Lighthouse was moved from its original location 45.7 m (150 ft) east in 2015 and its setting and location are partially compromised, the structure retains integrity of design, material, workmanship, feeling, and association.

Recommended Determination—Adverse Visual Effect. As a lighthouse, an ocean view toward the horizon is integral to its character and setting as well as its historic function. The maritime setting of this resource, and its viewshed, would be adversely affected through the introduction of new elements. The construction of the SWDA would alter the experience of the observer of the lighthouse when the SWDA is visible. Views in the southern/southeastern direction would be affected; views toward the north, east, and west would not be affected.

Gay Head Lighthouse is located at the western end of Martha's Vineyard and is 39.6 km (24.6 mi) from the nearest WTG or ESP. As described in Section 4.2, based on BOEM's methodology in BOEM 2017-037, and taking into account the proposed use of an ADLS, on average for all conditions, 501 South's structures could be visible 20% of the time from the Gay Head Lighthouse (see Table 4-2). In addition to general weather conditions, other factors such as haze

and sea spray may further reduce visibility. Photo simulations B-1a to B-1g and C-1a to C-1d, which are for a location in proximity to the Gay Head Lighthouse (the Aquinnah Cultural Center), provide representative views of the SWDA from the Gay Head Lighthouse.

Gay Head Lighthouse is located 45.7 m (150 ft) from its original location and is surrounded by a modern stone wall and fence. Eligibility Criterion A and Criterion C, as they relate to the setting of Gay Head Lighthouse and its clear horizon view, would be adversely affected. Although the structure has been moved from its original location (which has partially compromised its setting) and the SWDA is only partially visible from Gay Head Lighthouse (depending on and meteorological conditions), 501 South introduces visual elements that are out of character with the historic setting, feeling, and association of the property. Therefore, 501 South has an adverse visual effect to the setting of Gay Head Lighthouse. However, it should be noted that the adverse effect is inconsistent and weather dependent; for the vast majority of the time, the SWDA will not be visible.

Edwin Vanderhoop Homestead (GAY.40) 35 South Road, Aquinnah

The Edwin Vanderhoop Homestead is individually listed on the National Register. The late 19th century Edwin Vanderhoop Homestead is a two-and-a-half story Victorian Eclectic style residence. The building's complex plan consists of a rectangular side-gable main block and several intersecting gable roof extensions. The house was constructed for Edwin Vanderhoop, son of William Adriann Vanderhoop, the first member of the family to settle in Gay Head. The Vanderhoops would become important figures in the development of Gay Head. The building is significant under Criteria A and C as an excellent example of a Victorian Eclectic style house and its association with the Vanderhoop family, a prominent local family. The Edwin Vanderhoop Homestead retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The Homestead is oriented to take advantage of the ocean view and the seaside setting is integral to its setting. The maritime setting of this resource, and its viewshed, would be altered through the introduction of new elements; however, existing topography and vegetation partially screen the SWDA from view. View from the Homestead toward the SWDA is partially obstructed by topography and mature tree growth to the southeast. View of the SWDA is possible to the south. View of the Homestead to the north and east will be unaffected. View of the Homestead to the south and the west (at an extreme angle) will be affected in ideal weather conditions.

The Homestead is located at the western end of Martha's Vineyard approximately 39.2 km (24.4 mi) from the nearest WTG or ESP. On average, based on airport reported visibilities and accounting for the proposed use of an ADLS, visibility from Martha's Vineyard is 16 km (10 mi) or greater 42% of the time in a given year due to weather conditions (see Table 4-1). This means that, at minimum, the SWDA will not be visible 59% of the year. In addition to general weather conditions, other factors such as haze and sea spray may further reduce visibility. Photo simulations B-1a to B-1g and C-1a to C-1d provide representative views of the SWDA.

Eligibility Criterion A would not be affected by the SWDA. Criterion C, as it relates to the setting of the Homestead, would be affected; however, this affect would primarily be the southern view and a portion of the western view. View of the Homestead to the north and east would remain unaffected. With only partial visibility of the SWDA possible from the Homestead and variable visibility of the SWDA depending upon weather conditions, no adverse effects to the setting of the Homestead are anticipated.

Gay Head – Aquinnah Shops Area (GAY.B) Aquinnah Circle, Aquinnah

The Gay Head - Aquinnah Shops Area (the “Shops”) is a cluster of eight commercial buildings overlooking the Atlantic Ocean. Constructed during the early to mid-20th century, the buildings form a U-shaped cluster along the north and south sides of a walkway extending to the Clay Cliffs of Aquinnah Scenic Overlook. The Aquinnah Shops Area is significant under Criterion A as a collection of mid-20th century roadside shops associated with the rise of the automobile era and increased tourism at Gay Head Cliffs. Despite some alterations to the buildings, the Gay Head-Aquinnah Shops Area retains integrity of location, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The Shops were built to take advantage of the ocean view and the seaside setting is integral to their setting. The Shops are located at the western end of Martha’s Vineyard approximately 39.4 km (24.5 mi) from the nearest WTG or ESP. The maritime setting of this resource, and its viewshed, would be altered through the introduction of new elements; however, existing powerlines and other modern elements are already within the foreground of the viewshed as opposed to the SWDA, which will only be partially visible, far off on the horizon. Additionally, existing topography and vegetation partially screen the SWDA from view. Photo simulations B-1a to B-1g and C-1a-C-1d, which are for a location in proximity to the Gay Head - Aquinnah Shops Area, provide representative views of the SWDA from the Gay Head - Aquinnah Shops Area.

The Shops were constructed as a means of capitalizing on tourism in Gay Head, in particular the Gay Head Cliffs, which are located to the north, west, and south of the Shops. The Gay Head overlook, where tourists view the Cliffs, is located to the north of the Shops and views to the north and east of the Cliffs are the primary viewsheds of the Gay Head Cliffs. A view to the south over the Shops to the SWDA is possible from the overlook, but is not a significant viewshed as the Shops themselves conflict with the purpose of the overlook, which is to view the natural scenic character of the Cliffs and no view of the Cliffs is possible from this angle. Eligibility Criterion A would not be affected by the SWDA, but Criterion C, as it relates to setting of the Shops, would be affected. The primary viewpoints of the Shops are west or north from Aquinnah Circle; view of the SWDA is not possible with a northern view and the SWDA is only partially visible at an extreme angle at the west. Although the setting will be affected, no adverse effects are anticipated as significant viewsheds will not be altered.

Elijah Smith House (CHL.39) 9 Quitsa Lane, Chilmark

The one-story Cape style residence was constructed in circa 1770 by Elijah Smith. The side-gabled house has a three-bay wide symmetrical facade with a central door enhanced with a two-light transom. Elijah Smith, a farmer and cordwainer, worked as the tax collector during the time of Grey's Raid of the Revolutionary War. The property remained in the Smith family until the early 20th century. The Elijah Smith House is significant under Criterion A for its association with Gray's Raid of the Revolutionary War and Criterion C as an example of a 18th century Cape style farmhouse. The building retains integrity of location, design, setting, material, workmanship, feeling, and association. The Elijah Smith House is considered eligible for listing on the National Register along with the Nathan Mayhew Gravestone (CHL.802).

Recommended Determination—No Adverse Effect. The Elijah Smith House is located at the southwestern end of Martha's Vineyard approximately 33.9 km (21.1 mi) from the nearest WTG or ESP. This property is oriented to the south as part of historically utilizing natural light. The setting of this resource, and its viewshed, would be altered through the introduction of new elements; however, existing modern buildings are already within the viewshed. Additionally, existing buildings and structures as well as topography and vegetation partially screen the SWDA from view. Views in the southern direction would be affected; views toward the north, east, and west would not be affected.

A comparison of historic aerials from 1936 to the present demonstrates dramatic changes to the setting of this property and surrounding area including dramatic shoreline erosion. Historic aerials show that mature vegetation historically existed between the Elijah Smith House and the waterline, obstructing view to the south toward the SWDA. Additionally, in the late-20th century, new homes were constructed along Quitsa Lane between the property and the ocean further obstructing the viewshed to the SWDA. Therefore, a water view is not historically associated with the setting of this property. Given the lack of historical association with a water view and partial obstruction of view toward the SWDA, no adverse effects are anticipated to the setting of this property and National Register eligibility Criteria A and C will not be affected.

Nathan Mayhew Gravestone (CHL.802) 1 Quitsa Lane, Chilmark

The slate headstone and footstone of Nathan Mayhew was laid following Mayhew's death in 1760. Son of Captain Jeramiah and Deborah Smith Mayhew, Nathan was buried on the property of his uncle Elijah Smith (Elijah Smith House / CHL.39). The gravestones are significant under Criterion A and Criterion C as 18th century grave markers and contribute to the 18th century setting of the Elijah Smith House as well as their association with the prominent Mayhew family. The markers retain integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The Nathan Mayhew Gravestone is located at the southwestern end of Martha's Vineyard approximately 34.1 km (21.2 mi) from the nearest WTG or ESP. Due to the location and orientation of the gravestones as well as existing

vegetation and buildings, visibility of the SWDA (if possible) will be limited due to intervening buildings and vegetation. The gravestones are located at the rear of the Elijah Smith House, with the building between them and the SWDA to the south. Views in the southeastern direction would be affected; views toward the north, east, and west would not be affected. The Elijah Smith House therefore provides an obstruction to the southern view as do other buildings along Quitsa Lane and mature vegetation. Additionally, a water view is not associated with the gravestones and therefore not tied to their historic character and integrity. The SWDA will have no adverse effect on the setting of the gravestones or National Register eligibility Criteria A and C.

Captain Ephraim Poole Farm (CHL.B) 14 Menemsha Crossroad, Chilmark

The 19th century farm complex includes several stone buildings, an uncommon building material in Chilmark. The one-and-a-half story stone Greek Revival Ephraim Pool House was constructed by local stonemason James Moshure. The complex represents one of the finest examples of stonework and stone buildings in Chilmark. The complex was constructed after a four-year period for Captain Ephraim Poole, a whaling captain. The farm showcases the wealth obtained by whaling captains in Chilmark at the time of its construction. The Captain Ephraim Poole Farm is significant under Criterion A for its association with the Chilmark and Martha's Vineyard whaling industry. The complex is significant under Criterion C as an example of a 19th century farm complex with Greek Revival house, barn privy, corn crib, and stone walls. The complex retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The farm is located at the southern side of Martha's Vineyard in an upland location approximately 35.4 km (22 mi) from the nearest WTG or ESP. Historically, this property would not have had a view toward the SWDA as part of its setting. Additionally, the southern view toward the SWDA is largely obstructed by dense mature tree growth, with limited potential visibility and, therefore, the SWDA will have no adverse effect on this National Register eligible resource.

Martha's Vineyard American Revolution Battlefield (CHL.E) Centered Along South Road in Chilmark

The Martha's Vineyard American Revolution Battlefield is significant under Criteria A and C as a collection of historic properties dating from the 18th century associated with the 1778 British raid and with later 19th and 20th century infill properties together forming a National Register eligible district. The Martha's Vineyard American Revolution Battlefield incorporates the towns of Vineyard Haven, Tisbury, and Chilmark. The boundary begins at the intersection of North, South, and Vineyard Haven Roads and encompasses much of the southwestern British route. The raid represents the most significant event of the American Revolution on Martha's Vineyard. The British seized all of the island's arms and destroyed the majority of the vessels, preventing island residents from serving as soldiers in the remainder of the war and greatly impacting the island's economy. The Battlefield is significant under Criterion A for its association with the 1778 British raid and Criterion C as a collection of 18th century residences

with later 19th century and 20th century infill properties. Significant architectural styles represented include Cape, Georgian, and Greek Revival. Also included in the eligible district is the Able Hill Cemetery established in 1717. Despite some intrusions of later development, the eligible district retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The eligible district is a 4.8 km (3 mi)-long area, connecting to other sections throughout Martha’s Vineyard. The district is located at the southern end of Martha’s Vineyard approximately 34.6 km (21.5 mi) from the nearest WTG or ESP. From select locations within the area, the SWDA is visible; however, the overall character of such a large area will not be adversely affected. The vast majority of the viewshed along South Road to the SWDA is obstructed. Select locations where the southern view toward the SWDA would be partially visible include existing conditions photolocation #12 (Allen Farm, 421 South Road, Chilmark), photolocation #11 (322 South Road, Chilmark), and the Vincent Mayhew House (CHL.A, 451 South Road, Chilmark). In each of these instances, only a partial view of the SWDA from State Road is possible through gaps in existing tree growth. Additionally, existing powerlines and other modern elements are already within the foreground of the viewshed as opposed to the SWDA, which will only be partially visible, far off on the horizon. Criterion A will not be affected by 501 South. Criterion C, as it relates to setting, will be affected, but the SWDA will not adversely affect the character of this National Register eligible district due to the isolated instances (only in ideal weather conditions) where the SWDA will be partially visible. Only a portion of the overall area is illustrated on Figure 3-1 as the northern portion of the area will not have visibility of the SWDA.

Vincent Mayhew House (CHL.A) 451 South Road, Chilmark

The Vincent Mayhew House (also known as the Barn House) contains a group of buildings from the early 20th century and one from the late 17th century collectively listed as a National Register district. The one-and-a-half story Colonial Cape house was constructed in circa 1690 for Nathan Skiff and has a rectangular footprint with a rear ell. The side gable house is five-bays by three bays wide and features asymmetrical facade with an off-centered door. Originally constructed as a half-house, it was enlarged by Nathan Skiff in circa 1700. The house was sold in 1731 to Simon Mayhew and remained in the Mayhew family into the 19th century when it was sold to Herman Vincent, remaining in the Vincent family into the 20th century. The house was purchased by a group of artists and writers in 1919 to form a summer retreat community. The house is significant under Criterion A as a reflection of Chilmark’s agricultural history from the colonial period to the 20th century as well as its association as a vacation destination of the 20th century. The property is also significant under Criterion C as an example of an early Chilmark farmstead. The property retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The Vincent Mayhew House is located at the southern end of Martha’s Vineyard approximately 34.7 km (21.6 mi) from the nearest WTG or ESP. This property is oriented to the south as part of historically utilizing natural light. The

setting of this resource, and its viewshed, would be altered through the introduction of new elements; however, existing mature tree growth largely screens the SWDA from view. Directly south from the property across from 2 Rogers Lane is a modern residence constructed in approximately 1998, and mature tree growth is located to its south and west. To the east of 2 Rogers Lane is a large open field with views toward the SWDA. From the southeast corner of the Vincent Mayhew House property, a partial view toward the SWDA is possible to the southeast across the open field. A view southward from the house itself to the SWDA is obstructed by vegetation. Views of the property to the north, west, and east will not be affected and only a portion of the southeast view will be affected. Additionally, existing powerlines and other modern elements are already within the foreground of the viewshed, as opposed to the SWDA, which will only be partially visible, far off on the horizon. Criterion A will not be affected and Criterion C, as it relates to the SWDA, has the potential to impact the setting of this National Register listed resource. However, the effects are minimized by obstructing vegetation and the extreme angle necessary to view the SWDA; therefore, no adverse effects are anticipated.

Captain Samuel Hancock House (CHL.35) 141 Quansoo Road, Chilmark

Historical maps show a house at this location as early as the 1790s, under the ownership of James Hancock. The house continued in the Hancock-Mitchell family until the 1980s. The building is eligible under Criterion A for its association with local maritime history and Criterion C as a rare intact example of early timber frame architecture in Chilmark. The building retains integrity of location, design, setting, material, workmanship, feeling, and association. The Massachusetts Historical Commission has determined this property eligible for listing on the National Register.

Recommended Determination—No Adverse Effect. The Captain Samuel Hancock House is located at the southern end of Martha’s Vineyard approximately 34.2 km (21.3 mi) from the nearest WTG or ESP. Dense mature vegetation obstructs view of the ocean to the southeast toward the SWDA and partially obstructs the southern view. According to historic aerials, since 1938, the foreground between the property and the SWDA has had agricultural fields interspersed with tree growth; the present open field to the south and west is a modern condition (created circa 1995). Based on the historic aerials, it does not appear that a clear ocean view was historically associated with this property. Due to the vegetation, which partially obstructs the view toward the SWDA, and the lack of historical connection to a clear horizon view, 501 South will have no adverse effect on this National Register eligible resource.

Simon Mayhew House (CHL.5) 34 Blacksmith Valley Road, Chilmark

The Simon Mayhew House is an intact example of an early 18th century Cape style farmhouse. The property also contains stone walls retaining an agricultural feel. The building is eligible under Criterion A for its association with early agricultural development of Chilmark and Criterion C as an intact example of early Cape style architecture in Chilmark. The building retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The Simon Mayhew House is located at the southwestern end of Martha’s Vineyard approximately 33.9 km (21.1 mi) from the nearest WTG or ESP. The setting of this property has been altered with the construction of several neighboring residences in the 1980s and 1990s. According to historic aerials, stands of mature trees stood between the property and the shoreline. Mature tree growth is still on the property and also along Squibnocket Road, obscuring the ocean view. Due to the vegetation and neighboring buildings, which partially obstruct the southeastern view toward the SWDA, 501 South will have no adverse effect on this National Register eligible resource.

Edgartown Village Historic District (EDG.A) Roughly bound by Katama Bay Main Street, Peases Point Way, Planting Field Way

The Edgartown Village Historic District is listed on the National Register. The district comprises the historic town center of Edgartown along Edgartown Harbor. The district is historically associated with the early settlement of Martha's Vineyard, the development of whaling as the island's principal business during the 19th century, and the establishment of summer tourism as a major element in the local economy at the end of the 19th and the beginning of the 20th century. The district contains homes of individuals who were regionally prominent in the whaling trade such as Captain Valentine Pease (whom Herman Melville sailed with) and Dr. Daniel Fisher who operated a whale oil and candle factory. The Edgartown Village Historic District meets Criteria A, B, and C of the National Register, and possesses integrity of location, design, setting, materials, workmanship, feeling, and association from its several periods of development. The district is significant in particular for its association with the Colonial era as well as the Romantic and Victorian architectural periods, containing some of Martha's Vineyard's finest architectural examples of 18th, 19th, and early 20th century designs, which include buildings in Federal, Greek Revival, Italianate Queen Anne, and Colonial Revival styles.

Recommended Determination—No Adverse Effect. The Edgartown Village Historic District is located at the western side of Katama Bay on Martha’s Vineyard approximately 37.2 km (23.1 mi) from the nearest WTG or ESP. The maritime setting of this resource and its viewshed will be altered through the introduction of new elements. Edgartown is a historic port community and the view toward the ocean via Katama Bay is integral to its character and setting. However, existing buildings and structures as well as topography and vegetation largely screen the SWDA from view; the dense compact nature of the district with its multi-story buildings effectively screens the SWDA from the majority of the district. Areas along the perimeter of the district at Edgartown Harbor would be able to view a small portion of the SWDA in ideal weather conditions, but the vast majority of the SWDA is also screened by Katama Point to the south with its buildings and mature tree growth. View of the district to the north, east, and west will not be affected by 501 South. Only at select locations at the northern end of the district and along Edgartown Harbor will it be possible to view the SWDA and the district southward simultaneously. The presence of multi-story buildings along the Harbor also screens view of the SWDA unless at or in close proximity to the waterline facing south.

On average, based on airport reported visibilities and accounting for the proposed use of an ADLS, visibility from Martha's Vineyard is 16 km (10 mi) or greater 42% of the time in a given year (see Table 4-1). This means that, at minimum, the SWDA will not be visible 58% of the year. In addition to general weather conditions, other factors such as haze and seaspray may further reduce visibility. With only partial visibility of the SWDA possible from select locations within the district and variable visibility of the SWDA depending upon weather conditions, no adverse effects to the setting of the Edgartown Village Historic District are anticipated.

Edgartown Village Historic District (EDG.B) Roughly bound by Katama Bay Main Street, Peases Point Way, Planting Field Way

Edgartown Village District is listed on the State Register of Historic Places and is considered eligible for listing on the National Register as a boundary increase to the Edgartown Village National Register Historic District (EDG.A). The eligible district is predominantly characterized by the development of early 20th century residences associated with the rise of Martha's Vineyard and Edgartown as a summer residence and tourist destination. The district is significant under Criteria A and C as a collection of early 20th century residences and pattern of development in Edgartown including examples of Colonial Revival, Cape, and Ranch styles as well as some scattered 19th century buildings in Greek Revival and Queen Anne styles. Despite some intrusions in the form of modern buildings, the district retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. The Edgartown Village District is located at the western side of Katama Bay on Martha's Vineyard approximately 37 km (23 mi) from the nearest WTG or ESP. The maritime setting of this resource and its viewshed would be altered through the introduction of new elements. Edgartown is a historic port community and the view toward the ocean via Katama Bay is integral to its character and setting. However, existing buildings and structures as well as topography and vegetation largely screen the SWDA from view; the dense compact nature of the district with its multi-story buildings effectively screens the SWDA from the majority of the district. Areas along the perimeter of the district at Edgartown Harbor would be able to view a small portion of the SWDA in ideal weather conditions, but the vast majority of the SWDA is also screened to the south by Katama Point's buildings and mature tree growth. View of the district to the north, east, and west will not be affected by 501 South. Only at select locations at the northern end of the district and along Edgartown Harbor will it be possible to view the SWDA and the district southward simultaneously. The presence of multi-story buildings along the Harbor screens view of the SWDA unless at or in close proximity to the waterline facing south.

The district on Edgartown Harbor is approximately 35.9 km (22.34 mi) from the SWDA at its closest point. On average, based on airport reported visibilities and accounting for the proposed use of an ADLS, visibility from Martha's Vineyard is 16 km (10 mi) or greater 42% of the time in a given year (see Table 4-1). This means that, at minimum, the SWDA will not be visible 58% of the year. Other factors such as haze and sea spray may further reduce visibility. With only

partial visibility of the SWDA possible from select locations within the district and variable visibility of the SWDA depending upon weather conditions, no adverse effects to the setting of the district are anticipated.

Chappaquiddick Island Traditional Cultural Property (TCP) (No MHC Inventory Designation)

Chappaquiddick Island has been determined by BOEM to be potentially eligible for listing on the National Register as a traditional cultural property (BOEM 2019). The designation does not contain specific boundaries, but would roughly encompass the Island of Chappaquiddick, Norton Point in Edgartown, and Katama Bay. According to BOEM (2019):

“The TCP would be significant under Criterion A for its association with and importance in maintaining the continuing cultural identity of the community.”

Within the bounds of the TCP are three historic properties: two are included in the Inventory (the Chappaquiddick Schoolhouse [EDG.506] and the Captain William Martin House [EDG.505]) and one, the Cape Poge Light (EDG.900), is listed in the National Register of Historic Places (MACRIS 2020; National Park Service 2020). The Chappaquiddick Schoolhouse (EDG.506) and the Captain William Martin House (EDG.506) are not included in the APE because they are outside areas of potential visibility identified in the viewshed analysis. Therefore, these two historic properties are not illustrated on Figure 3-1. Although a viewer at ground level at Cape Poge Light would not have a view of the SWDA, components of 501 South are theoretically visible from the observation deck. Thus, Cape Poge Light is included in the APE (see Figure 3-1).

Based upon a review of available historical information on the three properties, the Chappaquiddick Schoolhouse (EDG.506) and the Captain William Martin House (EDG.505) have historical associations with the Chappaquiddick TCP, as they existed contemporaneously with the Chappaquiddick Tribe (MACRIS 2020). The Captain William Martin House (EDG.505) has a strong connection, as Captain William Martin married Sarah Brown, a member of the Chappaquiddick Tribe (Fields 2006). There are no known associations between Cape Poge Light (EDG.900) and the Chappaquiddick Tribe aside from the lighthouse being located on land that was once occupied by the Chappaquiddick Tribe (DiStefano and Salzam 1980). In its June 20, 2019 Revised Finding of Adverse Effect for Vineyard Wind 1, BOEM noted that in communications with the Chappaquiddick, the Chappaquiddick stated that the grounds around Cape Poge Light were used for hunting, but no cultural significance was ascribed to Cape Poge Light (EDG.900). This suggests that while Cape Poge Light (EDG.900) is a historic structure listed on the National Register within the bounds of the TCP, it is not historically associated with the Chappaquiddick TCP (BOEM 2019). The current Cape Poge Light (EDG.900) is the third lighthouse constructed on Cape Poge. According to the National Register nomination, as of 1980, the Cape Poge Light had been moved or reconstructed at least six times. The nomination states that the current structure was moved in 1922 and indicates the United States Coast

Guard (USCG) intended to relocate the light in 1986. Historic aerials confirm the current structure was moved again in the 1980s. Accordingly, the current lighthouse has been moved at least twice (in 1922 and again in the 1980s) since its original construction.

Recommended Determination—No Adverse Effect. The setting of the Chappaquiddick Island TCP and its viewshed would be altered through the introduction of new elements. Photo simulations from Martha’s Vineyard, in particular South Beach (B-3a to B-3g), demonstrate that the SWDA will be visible from a portion of Chappaquiddick Island as well as Norton Point and Katama Bay when looking southward. Views to the north, east, and west from these locations will not be affected. Further, visibility of the SWDA is limited to the areas along the coastline and within Katama Bay. Additionally, there will be no visual effect for undersea cables. Photo simulations B-4a to B-4e for Wasque Reservation provide views toward the SWDA from the Chappaquiddick Island TCP.

Visibility of the SWDA will be intermittent and only possible during ideal weather conditions as even moderate haze obscures 501 South from view. The southern shoreline of Chappaquiddick is 33.2 km (20.6 mi) from the nearest WTG or ESP. 501 South, even in ideal weather conditions, is barely distinguishable at the horizon line. Without foreknowledge of 501 South, it would likely not be possible for an observer to understand what is visible as the WTGs appear as cloud shadows or other atmospheric phenomena.

Cape Poge Light (EDG.900)

The existing Cape Poge Light, constructed in 1893, is the third lighthouse built on Cape Poge (DiStefano and Salzam 1980). Overall, records indicate that, as of 1980, the Cape Poge Light (including the two previous versions of the lighthouse) had been moved or reconstructed at least six times. The present location is at least the third location for the current version of Cape Poge Light. The nomination states that the current structure was moved in 1922 and indicates the USCG intended to relocate the light in 1986. Historic aerials confirm the current structure was moved again in the 1980s. Accordingly, the current lighthouse has been moved at least twice (in 1922 and again in 1980s) since its original construction. The former lighthouse keeper’s house was removed in the 1980s when the lighthouse was moved southwest and inland to its current and third location (NETROnline 2020). The lighthouse is approximately 17 m (55 ft) tall with a round tower and an observation deck⁷ (DiStefano and Salzam 1980). The lighthouse is listed on the National Register and meets Criteria A and C as an architectural example of a late 19th century aid to navigation and maritime structure as well as for its contribution to the 19th century maritime industry in Edgartown, including shipping and whaling.

⁷ Available documentation from the National Register nomination (DiStefano and Salzam 1980) suggests that the height of the observation deck is approximately 10 m (33 ft).

Recommended Determination – No Adverse Effect. At ground level, intervening vegetation and topography prevent view from the Cape Poge Light toward the SWDA. However, the observation deck is high enough to see over the mature tree growth, allowing for a view southward toward the SWDA. The southerly view toward the SWDA includes a large portion of Chappaquiddick Island, Cape Poge Bay, and Katama Bay in the foreground with the proposed WTGs partially visible on the horizon in the distant background. Photo simulations B-4a to B-4e for Wasque Reservation provide representative views toward the SWDA from Cape Poge Light.

The intervening space of Chappaquiddick Island and the two bays include a number of modern visual elements including vessels, houses, recreational facilities, and other modern structures that detract from the historic setting of the lighthouse. Additionally, the historic setting of the lighthouse has already been compromised through its two movements, with its current location (third) dating to the 1980s. Cape Poge Light is over 152 m (500 ft) from its previous (second) location, and it is unknown where its historic location was; presumably, the historic location is now offshore due to coastal erosion.

The construction of 501 South would alter the experience of the observer's southerly view from the observation deck of the lighthouse only when the SWDA is visible. Cape Poge Light is 41.9 km (26.1 mi) from the nearest WTG or ESP. Distance, along with the large, vegetated foreground, will reduce the visibility of the SWDA. As described in Section 4.2, based on BOEM's methodology in BOEM 2017-037 and taking into account the use of ADLS, on average for all conditions, 501 South structures could be visible 18% of the time from Cape Poge Light (see Table 4-2). In addition to general weather conditions, other factors such as haze and sea spray will reduce visibility. It is also noted that access to the observation deck is very limited, as it is only accessible seasonally via private tour.

While 501 South may alter the southerly view from the observation deck of the lighthouse (when the SWDA is visible), the lighthouse did not likely serve as a historic aid to navigation for vessels traveling south of Chappaquiddick as evidenced by the lighthouse's location at the northeast end of Chappaquiddick. Thus, the southerly view toward the SWDA (which is filled with a terrestrial landscape and two inland bays) is in the opposite direction the lighthouse was intended to serve and is not associated with the historic, maritime aid to navigation function of the lighthouse. The lighthouse's historic maritime views were to the north, east, and west, which will be unaffected by 501 South. Views from ground level at any direction will be unaffected by 501 South.

In summary, Eligibility Criterion A would not be affected by the SWDA, but Criterion C as it relates to the setting of Cape Poge Light would be affected. The structure has been moved at least twice from its original location (which has compromised its setting) and the SWDA is only partially visible and only at the southern view from the observation deck of Cape Poge Light (depending on meteorological conditions). While 501 South introduces visual elements that are out of character with the setting, feeling, and association of the property, these visual elements

will only affect the southern view, which is not a historic maritime view and already includes modern visual elements. The lighthouse's historic maritime views were to the north, east, and west, which will be unaffected by 501 South. Therefore, 501 South will have no adverse visual effect to the setting of Cape Poge Light.

Vineyard Sound and Moshup's Bridge TCP (No MHC Inventory Designation)

The Vineyard Sound and Moshup's Bridge TCP encompasses the Elizabeth Islands, Vineyard Sound, the western portion of Martha's Vineyard (from Vineyard Haven southwest to Chilmark and Aquinnah) as well as Nomans Island and surrounding waters. The TCP is tied to the Wampanoag Nation creation story of geographical features within the area including the islands, shoals, and Vineyard Sound. The TCP is named for Moshup: a giant, teacher and benevolent being responsible for the creation of the islands and waterways as well as Moshup's Bridge (aka Devil's Bridge), which are shoals that run from Aquinnah to Cuttyhunk. Moshup is also responsible for geological features on Martha's Vineyard including the Aquinnah Cliffs, which is a culturally significant location to the Aquinnah Tribe and the scene of continued cultural practices. The landward portions of the TCP are archaeologically sensitive and include historic and pre-contact period sites associated with the Wampanoag occupation of the islands and later Euro-American use. Although not systematically tested, it can be assumed that surrounding submerged lands such as within Vineyard Sound are also archaeologically sensitive.

The TCP is more fully described in a Historic Resources VIA prepared by another lessee, which describes the role of Moshup in creating Vineyard Sound, the Aquinnah Cliffs, and Nomans Island:

In Aquinnah traditions, Moshup's long travels in ancient times wearied him. He dragged his toe as he strode from the area now known as Woods Hole towards the end of lands. The seas filled the deep furrow, forming Vineyard Sound and separating Noepe from the Elizabeth Islands (e.g. Sayet, 2012). Moshup made his home at the Aquinnah (Gay Head) Cliffs and gathered the Aquinnah people around him. He cast whales upon the shores of Aquinnah to provide for his people and the remains of his great meals created the bright colors of the clays and ancient bones and shells exposed along the cliffs' seaward margins. Moshup taught the Aquinnah respect and charity, the expressions of which are associated with the continuing bounty of the seas and lands within and surrounding Aquinnah (WTGH/A website, 2020).

After some time Moshup, decided to build a bridge from Aquinnah to Cuttyhunk Island for use by the Aquinnah people (Perry, 2010). Challenged by the trickster Cheepie (Cheepi) to complete the bridge in one night, the Giant Moshup set to work, casting huge stones into the seas. Cheepie, concerned that Moshup would finish the bridge before sunrise, set a giant crab to attack the great giant as he waded in the waters. When the crab pinched Moshup's foot, the enraged giant cast the crab into the seas, forming Nomans Island (Perry, 2010). Undeterred, Cheepie tricked a crow by shining a bright

torch before the sleeping bird's eyes, making him think the sun was rising. Upon hearing the crow's startled call, Moshup believed the dawn had broken and that he had failed Cheepee's challenge. The shoals between Aquinnah and Cuttyhunk are the remains of Moshup's great, if incomplete, bridge. Many variations of Moshup's story are told and retold by the Aquinnah people (Sayet, 2012). The centrality of Moshup's relationship to the landscape and seascape and the Aquinnah people's place within the world is expressed, in part, by an annual pageant for the celebration of the tribe's Moshup stories (NPS, 2010; Sayet, 2012; WTGH/A website, 2020).

The Vineyard Sound and Moshup's Bridge TCP is considered eligible for listing on the National Register under:

- ◆ 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.

Recommended Determination - Adverse Effect. The maritime setting of this resource and its viewshed would be altered through the introduction of new elements. The TCP consists of a very large area with diverse landscapes including open water, shoreline areas, and heavily vegetated upland areas. As shown in the VIA (see photo simulations B-1a to B-1g of Appendix III-H.a), the inland portions of the TCP will have limited visibility of the SWDA due to topographic changes and mature vegetation, with the vast majority of the inland area having no visibility of the SWDA. Only 6% of the total land area within the TCP has potential visibility of the SWDA. Additionally, while the closest distance from the TCP to the nearest WTG or ESP is 26.4 km (16.4 mi), the TCP is so large that the northern extent of the TCP is as far as 54.4 km (33.8 mi) from the closest WTG or ESP. The effect of visibility on the TCP is minimized by the size of the TCP itself, with only a portion of the TCP having visibility of the SWDA. However, based upon the simulations, 501 South will be visible across the seascape portion of the TCP as illustrated in the photo simulations in Appendix III-H.a, particularly in the area of the TCP between Martha's Vineyard and Nomans Island. As such 501 South will change the character of the setting of the TCP. Due to the change of the TCP setting, an adverse effect on the Vineyard Sound and Moshup's Bridge TCP has been determined.

There are a variety of mitigating factors affecting potential visibility of the SWDA and the adverse effect. Table 4-2 demonstrates that for the Gay Head Lighthouse (GAY. 900, within the proposed TCP and 39.6 km [24.6 mi]) from the closest 501 South structures), the average annual visibility of the SWDA would be 20%. The average annual visibility of 20% was calculated assuming 501 South uses an ADLS nighttime lighting system as proposed. The 20% annual visibility from Gay Head Lighthouse does not account for other factors such as sea spray and low-contrast paint color, which will further reduce visibility. Additionally, the islands themselves will obscure visibility from portions within Vineyard Sound. Photo simulations B-1a to B-1g and C-1a to C-1d of the VIA (see Appendix III-H.a) show varying representative settings and potential visibility of the SWDA from within the TCP and demonstrate how the differing topography and vegetation within the TCP partially obscure visibility of the SWDA.

Nomans Island has visibility of the SWDA. Nomans Island, although vegetated, has a low elevation and the vegetation is not as dense or as tall as on the other islands. As mentioned previously, visibility from Nomans Island will be minimized due to distance, environmental factors, the proposed paint color, and the proposed ADLS lighting system. Further, Nomans Island is closed to the public, as it is a National Wildlife Refuge and a former bombing target with the presence of unexploded ordnance.

National Register Eligibility Criteria A, B, and D would not be affected by potential visibility of the SWDA. National Register Criterion C as it relates to the setting will be adversely affected by the SWDA. Please note that areas of particular significance such as the Gay Head Cliffs only have limited visibility at oblique angles as the observer viewing the Cliffs typically views them to the west in the opposite direction from the SWDA. Further, only one view from within the TCP would be affected - the southern view - while other views would be unaffected.

5.3 Application of the Criteria for Determining Adverse Effects to Nantucket, Tuckernuck, and Muskeget Islands Historic Properties

The Nantucket Historic District comprises the entire islands of Nantucket, Tuckernuck, and Muskeget and is a National Historic Landmark District (see Figure 3-2). Although all three islands are part of the same National Historic Landmark District, each has been evaluated separately for an effects determination due to their differing size, location, and topography.

Nantucket Historic District (NAN.D), Island of Nantucket

The nomination for the island of Nantucket (NAN.D) notes its early development in the 17th and 18th centuries, including the development of the downtown area and village of Siasconset with their collection of 17th and 18th century architecture. However, significant historic development occurred during the early to mid-19th century as a result of fires and rebuilding in downtown as well as the rise of the whaling industry, which Nantucket became famous for. Nantucket retains a mixture of significant architectural styles from the 17th through the 20th centuries. The district is significant under Criterion A for its association with the development of Nantucket and the whaling industry, Criterion C for excellent architectural examples including Georgian, Federal,

Greek Revival, Italianate, Shingle, and Colonial Revival, and Criterion D for the potential archaeological remains associated with Native American pre- and post-contact use as well as historical archaeology. Despite modern construction and intrusions in the district, it retains integrity of location, design, setting, material, workmanship, feeling, and association.

Recommended Determination—No Adverse Effect. National Register Eligibility Criteria A and D would not be affected by 501 South. Criterion C, as it relates to the setting of the district, would be affected. The nearest WTG or ESP at its closest point to the island of Nantucket is at Madaket (southwest corner of Nantucket) is 38.1 km (23.7 mi) away. As described in Section 4.2, based on BOEM’s methodology in BOEM 2017-037, and taking into account the proposed use of an ADLS, on average, for all conditions, 501 South’s structures could be visible 15% of the time from the closest location within the Nantucket Historic District (see Table 4-2). In addition to general weather conditions, other factors such as haze and sea spray will further reduce visibility. Photo simulations B-5a to B-5e, B-6a to B-6c, B-7a to B-7c, and B-8a to B-8c as well as C-3a to C-3d provide potential views toward the SWDA.

Based upon simulations, 501 South, even in ideal weather conditions, is not distinguishable. Without foreknowledge of 501 South, it would not be possible for an observer to understand what is visible. Views in the southern direction would be affected; views toward the north, east, and west would not be affected. Meteorological conditions will obscure view of the SWDA from the Nantucket Historic District to only in ideal weather conditions. Even in ideal weather conditions, it would likely not be possible for an observer to understand what is visible as the WTGs appear as cloud shadows or other atmospheric phenomena. Additionally, due to the orientation of the SWDA, the WTGs are progressively farther and farther away until they are not visible at all.

Tuckernuck Island

Tuckernuck Island (NAN.F) is part of the Nantucket National Historic Landmark District and contains a small collection of 19th and 20th century buildings. Like Nantucket, it is largely known for its 19th century architecture and benefited from the rise of the whaling industry. Tuckernuck’s eligibility criteria are the same for the island of Nantucket (since they are part of the same district), but its architectural timespan is shorter starting with examples dating to the early 19th century.

Recommended Determination—No Adverse Effect. National Register Eligibility Criterion A and D would not be affected by 501 South. Criterion C, as it relates to the setting of the district, would be affected. Located just off the western shore of Nantucket, Tuckernuck Island is expected to have the same visibility as areas along Nantucket’s southern shoreline.

The nearest WTG or ESP at its closest point to Tuckernuck Island is 37.4 km (23.3 mi) away, a similar distance as Nantucket, but slightly closer. On average, based on airport reported visibilities and accounting for the proposed use of an ADLS, visibility from Nantucket is 16 km (10 mi) or greater for only 37% of the time in a given year (see Table 4-1). The SWDA would not be

visible from closest location within the Nantucket Historic District (to the nearest 501 South WTG) due to weather conditions for at least 85% of the year (see Table 4-2). In addition to general weather conditions, other factors such as haze and sea spray will further reduce visibility.

Based upon photo simulations, 501 South, even in ideal weather conditions, is not distinguishable. Without foreknowledge of 501 South, it would not be possible for an observer to understand what is visible. Views in the southern direction would be affected; views toward the north, east, and west would not be affected. Meteorological conditions will obscure view of the SWDA from the Nantucket Historic District to only in ideal weather conditions. Even in ideal weather conditions, it would not likely be possible for an observer to understand what is visible as the WTGs appear as cloud shadows or other atmospheric phenomena. Additionally, due to the orientation of the SWDA, the WTGs are progressively farther and farther away until they are not visible at all.

Muskeget Island

Muskeget Island (NAN.D) is a separate island but is also a part of the Nantucket National Historic Landmark District. The island is largely devoid of structures with only one building, a circa 1910 former USCG boathouse, which is used as a summer residence. Muskeget Island's eligibility criteria are the same for the island of Nantucket as they are part of the same district, but its architectural timespan is shorter starting with only one surviving building—the former USCG boathouse.

Recommended Determination—No Adverse Effect. National Register Eligibility Criterion A and D would not be affected by 501 South. Criterion C, as it relates to the setting of the district, would be affected. Located off the western shore of Nantucket, Muskeget Island is expected to have the same visibility as areas along Nantucket's southern shoreline.

The nearest WTG or ESP at its closest point to Muskeget Island is 38.6 km (24 mi) away, a similar distance as Nantucket, but slightly closer. On average, based on airport reported visibilities and accounting for the proposed use of an ADLS, visibility from Nantucket is 16 km (10 mi) or greater for only 37% of the time in a given year (see Table 4-1). The SWDA would not be visible from closest location within the Nantucket Historic District (to the nearest 501 South WTG) due to weather conditions for at least 85% of the year. In addition to general weather conditions, other factors such as haze and sea spray will further reduce visibility.

Based upon photo simulations, 501 South, even in ideal weather conditions, is not distinguishable. Without foreknowledge of 501 South, it would not be possible for an observer to understand what is visible. Views in the southern direction would be affected; views toward the north, east, and west would not be affected. Meteorological conditions from the Nantucket Historic District will obscure view of the SWDA to only in ideal weather conditions. Even in ideal weather conditions, it would likely not be possible for an observer to understand what is visible

as the WTGs appear as cloud shadows or other atmospheric phenomena. Additionally, due to the orientation of the SWDA, the WTGs are progressively farther and farther away until they are not visible at all.

5.4 Application of the Criteria for Determining Adverse Effects to Nantucket Sound

Nantucket Sound (Varies, shown on maps as YAR.917, BRN.9072, DEN.930, FAL.973, HRW.918, OAK.902, and EDG.907)

Nantucket Sound has been determined eligible for listing on the National Register as a traditional cultural property by the Keeper of the National Register. Roughly bound by Vineyard Sound, Cape Cod, Martha's Vineyard, and Nantucket, the boundary for the National Register eligible property of Nantucket Sound as it relates to other waterways has not been fully defined. The Keeper in her review of eligibility criteria determined that:

“Nantucket Sound is eligible for listing in the National Register as a traditional cultural property and as an historic and archeological property associated with and that has yielded and has the potential to yield important information about the Native American exploration and settlement of Cape Cod and the Islands. Although the exact boundary is not precisely defined, this determination answers the question for the area that prompted the request for this determination, the Sound itself. The Sound is eligible as an integral, contributing feature of a larger district, whose boundaries have not been precisely defined, under:

- ◆ *Criterion A for its associations with the ancient and historic period Native American exploration and settlement of Cape Cod and the Islands, and with the central events of the Wampanoags' stories of Maushop and Squant/Squannit;*
- ◆ *Criterion B for its association with Maushop and Squant/Squannit;*
- ◆ *Criterion C as a significant and distinguishable entity integral to Wampanoags' folklife traditions, practices, cosmology, religion, material culture, foodways, mentoring, and narratives; and,*
- ◆ *Criterion D for the important cultural, historical, and scientific information it has yielded and/or may be likely to yield through archeology, history, and ethnography about access to resources, patterns of settlement, mobility, and land use prior to and after 6,000 years ago as a result of the inundation of the Sound. It is also important for the significant information it provides and can provide about the cultural practices and traditions of the Native Americans of Cape Cod and the Islands in relationship with other peoples since ancient times.”*

Recommended Determination—No Adverse Effect. Photo simulations from Nantucket (see photo simulations B-5a to B-5e) demonstrate that the SWDA will be visible at the extreme southern end of the Sound. Views of Nantucket Sound to the north, east, and west from within

the Sound will not be affected. For the majority of Nantucket Sound, the SWDA will not be visible. Additionally, there will be no visual effect for undersea cables. For the southern view, visibility of the SWDA will be intermittent depending upon weather conditions and the SWDA would only be visible slightly above the horizon line.

National Register Eligibility Criteria A, B, and D would not be affected by potential visibility of the SWDA. National Register Criterion C (which is typically for aspects of design related to the built environment) for this historic property references historic use and practices within Nantucket Sound, which will not be affected by the SWDA. In particular, the area of most importance between the islands of Martha's Vineyard, Nantucket, and Cape Cod will have minimal visibility of the SWDA as the islands themselves obstruct its view.

6.0 CONCLUSIONS

6.1 Direct Physical Effects

As described above, direct physical effects are defined as construction-related impacts or areas of potential disturbance by 501 South. These areas include proposed cable routes and new onshore substations in Barnstable. While the construction disturbance itself will be visible, it will be a temporary condition. The Knights Inn Motel located at the proposed Phase 1 substation site will be removed. The motel constructed circa 1956 is a common example of a motel on Cape Cod and is one of hundreds of Post-World War II era hotels constructed in the area. The Knights Inn Motel is not considered a National Register eligible resource. Effects related to potential terrestrial archaeological impacts are addressed in Appendix III-G. Effects related to potential marine archaeological impacts are addressed in COP Volume II-D.

6.2 Direct Visual Effects

As defined in BOEM's Finding of Adverse Effect for Vineyard Wind 1, the APE for direct visual effects is "the viewshed from which renewable energy structures, whether located offshore or onshore, would be visible." Vineyard Wind has identified historic properties included in, or eligible for inclusion in the National Register, that are within the APE.⁸

Based upon the location of the Phase 1 onshore substation site and nearby historic resources, only two properties (Old King's Highway Regional Historic District [BRN.O] and West Barnstable East Area [BRN.AN]) are in proximity to the Phase 1 onshore substation site. Old King's Highway Regional Historic District (BRN.O) is located across Route 6, a secondary highway, and through existing mature tree growth. West Barnstable East Area (BRN.AN) overlaps with the Old King's Highway Regional Historic District (BRN.O) extending southward and covers a portion of the proposed onshore substation site. West Barnstable East Area (BRN.AN) has no documented historic resources beyond the boundary of Old King's Highway Regional Historic District (BRN.O) and is not a National Register eligible property beyond the properties it shares with Old King's Highway Regional Historic District (BRN.O). Thus, no adverse visual effects are anticipated as a result of constructing the Phase 1 onshore substation. The specific location(s) of the Phase 2 onshore substation(s) will be determined at a future date. Additional information about the Phase 2 onshore transmission system(s) will be provided as part of the August 2021 COP revision.

For the Phase 1 Onshore Export Cable Route, if underground trenchless crossing options are not available for the Centerville River crossing on Craigville Beach Road, Vineyard Wind may construct an independent utility bridge to carry the onshore export cables. If constructed, the utility bridge, although minimally visible, would be within the viewshed of the George and

⁸ BOEM's June 20, 2019 Finding of Adverse Effect for the Vineyard Wind Project Construction and Operations Plan.

Justina Howes House (BRN.2228) and Garage (BRN.229) at 1204 Craigville Beach Road and the Margaret Hamilton House (BRN.2225), Outbuilding (BRN.2226), and Boathouse (BRN.2227) at 1187 Craigville Beach Road. These buildings are unusual examples of Spanish Colonial architectural style and meet National Register eligibility Criteria A and C as a potential historic district as part of the development of Centerville's summer residences in the early 20th century and for their high degree of architectural integrity. No adverse effects are anticipated on these resources due to the heavy tree growth between them and the Centerville Bridge, which minimizes visibility. Additionally, the bridge itself is a modern replacement constructed in 2002, replacing an earlier bridge and a small additional adjacent bridge, and would not substantially alter the viewshed.

For offshore portions of 501 South, delineating the APE for direct visual effects involved a three-step process. The first step in determining the APE included identifying the maximum theoretical area of nacelle visibility due to the earth's curvature. The second step involved identifying the ZVI (also known as the preliminary APE), which is the areas within the maximum theoretical area of nacelle visibility where 501 South could potentially be visible taking into account intervening topography, built structures, and vegetation. The ZVI includes areas of theoretical visibility of both the nacelle and blade tips, but is cropped to the maximum theoretical area of nacelle visibility. The third step in determining the APE included utilizing the photo simulations and, where available, field observations to identify those areas within the ZVI (i.e. the preliminary APE) where 501 South "would be visible." Once the APE was delineated, Vineyard Wind identified historic properties within the APE and assessed the potential effects of 501 South on those properties.

The following summarizes the assessment of effects for the geographical areas within the APE:

- ◆ **Martha's Vineyard:** 501 South may have an adverse visual effect on the Gay Head Lighthouse and the Vineyard Sound and Moshup's Bridge TCP. The maritime settings of these resources, and their viewsheds, would be adversely affected through the introduction of new elements. Other than the Gay Head Lighthouse and the Vineyard Sound and Moshup's Bridge TCP, no adverse effects on historic properties within the visual APE on Martha's Vineyard are anticipated. While historic properties may now have a potential view toward the SWDA, in many cases, the view is a modern condition and not tied to the historic setting of the property.
- ◆ **Nantucket Island, Muskeget Island, Esther Island, and Tuckernuck Island:** These islands are collectively designated as part of the same National Historic Landmark District. With limited visibility of the SWDA due to distance and weather conditions, 501 South will have no adverse visual effects to these islands.
- ◆ **Nantucket Sound:** Nantucket Sound has been determined eligible for listing on the National Register as a TCP. No adverse effects to Nantucket Sound are anticipated as only a limited section of Nantucket Sound has the potential to be minimally affected.

For all properties, it is not typically the viewshed of the property that is being affected, but rather the viewshed from the property, which, in many cases, is not as significant. For those properties with potential changes to their viewsheds, a variety of mitigating circumstances are present. For example, for the Edgartown Historic Districts (EDG.A and EDG.B), intervening tree growth and structures mitigate the view to the SWDA, which is only achievable when viewing down Katama Bay through the existing harbor.

For properties with a largely unobstructed view of the ocean, such as those in Gay Head, including the Gay Head Lighthouse (GAY.900), the Edwin Vanderhoop Homestead (GAY.40), and the Gay Head-Aquinnah Shops Area (GAY.B), it is only a portion of the southerly viewshed from the properties that will be affected and only a portion of the SWDA will be visible due to obstructing topography and vegetation. Most importantly, distance and weather conditions render the SWDA not visible during the majority of the year (see Appendix D to Appendix III-H.a). Therefore, while the Gay Head Lighthouse may be adversely affected by 501 South, it will only be so during ideal weather conditions and on a temporary basis. Further information regarding the potential visibility of 501 South can be found in the VIA in Appendix III-H.a.

7.0 REFERENCES

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ATTACHMENT A

Existing Conditions Photolocations

Attachment A - Existing Conditions Photolocations

Martha's Vineyard Existing Conditions Photolocations

A total of 19 locations were selected for an existing conditions survey of Martha's Vineyard. These locations are in proximity to some historic or archaeological resources. The 19 locations below provide a variety of locations from directly along the shoreline to upper terrain inland locations (see Figure A-1). The photographs are for reference purposes only to view existing topography, vegetation, and structures as part of a field review of obstructing features on the landscape affecting potential visibility of the SWDA. The photo simulations in Appendix III-H.a provide representative views towards the SWDA for the historic properties on Martha's Vineyard.

LEGEND

- ① Photolocation
- ▭ Municipal Boundary

Scale 1:96,000
1 inch = 8,000 feet

0 4,000 8,000 Feet

Basemap: 2018 World Imagery, Esri



Vineyard Wind 501 South



Figure A-1
Martha's Vineyard Existing Conditions Photolocation Map

Photolocation #1 / Wasque Reservation, Chappaquiddick

Located along Wasque Avenue, this area includes shoreline and open fields with low tree growth and a northern tree line with larger mature tree growth approximately 4.5-6 m (15-20 ft) in height. A lagoon is located north of a sandbar with dunes approximately 2.4-3 m (8-10 ft) in height. The topography slopes upward inland allowing for view to the SWDA above the dunes. Existing vegetation eliminates the SWDA view northward along Wasque Avenue toward Pocha Road, with views present along intersecting streets at their southern ends at Katama Bay.



View toward the SWDA at the end of Wasque Avenue.



View at shoreline of lagoon toward the SWDA over the dunes.

Photolocation #2 / Wasque Point, Chappaquiddick

Located within the Wasque Reservation, Wasque Point has a cliffside view (approximately 6 m [20 ft] high) over the beach below, largely to the east with a southern view through existing tree growth approximately 4.5-6 m (15-20 ft) in height. The view from the beach below to the south along the shoreline is unobstructed.



View toward the SWDA along the eastern shoreline.

Photolocation #3 / Washqua Avenue, Chappaquiddick

Running from Wasque Avenue and terminating downhill at Katama Bay, this area contains a mix of one to two-story residential buildings dating from the 20th century as well as open lawns and mature tree growth with shrubbery at Katama Bay. At the high/inland end of the street, the elevation is roughly 12.1 m (40 ft) above sea level. A view toward the SWDA is possible at the end of the street looking over the dunes at Katama Bay. Existing tree height along Washqua Avenue is 6-7.6 m (20-25 ft).



View south across Katama Bay toward the SWDA; dunes block view of the horizon line.

Photolocation #4 / Jerimiah Way, Chappaquiddick

Running from Litchfield Road southward and terminating at Katama Bay, Jerimiah Way consists of a mix of mid- to late-20th century single-family residences set on large lots with mature tree growth 4.5-9.1 m (15-30 ft) in height. Tree growth lowers in height toward Katama Bay. Views from the roadway toward the SWDA were largely obscured by existing tree growth and buildings. The roadway also sits behind a small rise blocking view of the horizon line. Visibility from private property across Katama Bay toward the SWDA is possible.



View south toward the SWDA is limited due to topographic changes and vegetation.

Photolocation #5 / Chappy Point, Gardner Beach, Chappaquiddick

Located in the vicinity of the Edgartown Historic District on Chappaquiddick Road at the ferry landing, Gardner Beach has low sporadic vegetation 1.5-2.4 m (5-8 ft) in height with a wide open view southward to Katama Bay. View toward the SWDA is partially blocked by the shoreline in Edgartown (in particular, Katama Point).



View south across Katama Bay toward the SWDA.

Photolocation #6 / Katama Point Public Launch, Edgartown

The public launch overlooks a section of Katama Bay toward the dunes to the south. From this location, significant vegetation is not present, and the dunes provide the only obstruction of the horizon line. Nearby residences dating from the mid- to late-20th century may have views over the dunes that could provide visibility of the SWDA from this location. Access to private property was unavailable.



View south across Katama Bay toward the SWDA; dunes block view of the horizon line.

Photolocation #7 / South Beach / Katama Beach, Edgartown

South Beach / Katama Beach has significant dunes in this location 1.8-3 m (6-10 ft) in height. From an inland location behind the dunes, a view of the horizon line and SWDA is possible. Inland of this location is Katama Farm and Katama Airpark, both of which are devoid of significant vegetation, allowing for potential visibility of the SWDA further inland until the tree line and nearby residences (dating from the mid-late 20th century) create an obstruction.



View toward the SWDA; gap in dunes permits view of the SWDA.

Photolocation #8 / Wilson's Landing, Edgartown

Located on Edgartown Great Pond, Wilson's Landing is a public boat launch. Existing mature tree growth in the area is 7.6-10 m (25-35 ft) in height. The landing has a southerly view across the pond toward the dunes and the inlet. View toward the SWDA and horizon line is possible. Once back from the shoreline, existing vegetation quickly obstructs the viewshed to the south.



View south toward the SWDA; inlet provides view of horizon line.

Photolocation #9 / Long Point Wildlife Refuge, West Tisbury

Located roughly midway along Martha's Vineyard's southern coast is the Long Point Wildlife Refuge. The Refuge has mature tree growth 9.1-12.1 m (30-40 ft) in height that lowers in height from Scrubby Neck Farm Road at the north down to shrubbery and grassed areas and dunes at the shoreline. Dunes at this location are 1.8-2.4 m (6-8 ft) in height. View of the SWDA from inland areas is partially obstructed by tree growth to the north of this position but views of the SWDA are possible.



View south toward the SWDA, visible at right.

Photolocation #10 / Tississa Point, West Tisbury

Located within the Sepiessa Point Reservation, Tississa Point has a southerly view across Tisbury Great Pond through an inlet toward the SWDA. The surrounding area consists of low vegetation near the shoreline with open fields and mature tree growth (approximately 9.1 m [30 ft] in height) further northward. Dune height on either side of the inlet varies, providing view of the horizon on either side of the inlet. View toward the SWDA is possible from this location, but is obstructed further northward from this position due to dense vegetation.



View south toward the SWDA.

Photolocation #11 / 322 South Road, Chilmark

Throughout most of South Road in Chilmark, view of the ocean is obstructed by tree growth. In the vicinity of Able Hill Cemetery (CHL.803) and specifically through the property at 322 South Road, a view of the horizon line toward the SWDA exists via a gap in existing tree growth. Elsewhere, tree growth is 7.62-9.1 m (25-30 ft) in height. Some of the private residences (largely dating from the mid- to late-20th century) on the southern side of South Road have a clear view toward the SWDA due to the steep slope down to the shoreline and lack of vegetation. Access to private property was not available during the field survey.



View south toward the SWDA.

Photolocation #12 / Allen Farm, 421 South Road, Chilmark

The Allen Farm (CHL.E) consists of an 18th century house and associated farm buildings. This area along South Road has some large open fields and some historic farm complexes. Via the open fields to the south, view toward the SWDA and horizon line is possible through openings in the vegetation and over the cliffs at Lucy Vincent Beach (see [Photolocation #13](#) below).



View south toward the SWDA, visible at right.

Photolocation #13 / Lucy Vincent Beach, Chilmark

Lucy Vincent Beach has a combination of beach shoreline and cliffs roughly 10.6 m (35 ft) in height. At the shoreline, southerly views toward the SWDA are unobstructed. Inland of the beach, the topography rises quickly and the immediate area has some open fields allowing for overlooking views toward the SWDA. Where present, such as the road to the parking lot, existing tree growth is 7.6-10.6 m (25-35 ft) in height and, with the exception of the path to the beach, obstructs view of the horizon.



View south toward the SWDA from Lucy Vincent Beach.

Photolocation #14 / Chilmark General Store, 7 State Road, Chilmark

Located in the town center of Chilmark, the area around the Chilmark General Store (CHL.E) is obstructed from viewing the SWDA and ocean generally by dense vegetation. Mature tree growth in this area is 9.1-12.1 m (30-40 ft) in height.



View south toward the SWDA; no ocean view from this location.

Photolocation #15 / Squibnocket Beach, Aquinnah

Squibnocket Beach has unobstructed views toward the SWDA. The area around the beach has varying topography including rolling hills and a high point of Squibnocket Ridge. The area surrounding the beach also has predominantly low vegetation and sporadic mature tree growth allowing for views from surrounding properties as well.



View south toward the SWDA.

Photolocation #16 / Zach's Cliffs / Moshup Trail, Aquinnah

This section of Moshup Trail has dense vegetation, but at the road, a partially obstructed oblique view to the southeast toward the SWDA is possible. Most of the surrounding vegetation is 1.8-3 m (6-10 ft) in height. From the road, Zack's Bluffs largely obstruct the view toward the SWDA, but from the bluffs themselves, views toward the SWDA can be achieved.



View southeast toward the SWDA, at back right.

Photolocation #17 / Gay Head Lighthouse, Aquinnah

Located on a prominent rise, the State and National Register-listed Gay Head Lighthouse's (GAY.900) southerly view is too far east to view the SWDA due to its location at the western end of Martha's Vineyard. A southeast view is required to look toward the SWDA, and this view is partially obstructed by existing topography and vegetation. Only the southwestern portion of the SWDA would potentially be viewable, which is at the furthest distance from the lighthouse. The area surrounding the lighthouse is a mixture of open fields and low vegetation (shrubby) with sporadic tree growth 1.8-3 m (6-10 ft) in height. A view from within or atop the lighthouse was not obtainable during the field survey.



View southeast toward the SWDA, at right.

Photolocation #18 / Gay Head Cliffs Overlook, Aquinnah

The Gay Head Cliffs Overlook is located just north of the Aquinnah Shops. From this vantage point, a better view toward the SWDA can be achieved than from the Gay Head Lighthouse due to the increased elevation and ability to see across Aquinnah toward the SWDA at the southeast; however, the landmass of Aquinnah creates an obstruction. Only a partial view toward the SWDA is possible and, as with the lighthouse, only the southwestern portion of the SWDA would be viewable.



View southeast toward the SWDA, at right.

Photolocation #19 / Aquinnah Town Hall, 65 State Road, Aquinnah (GAY.A)

Located in an area of dense tree growth ranging from 4.5-12.1 m (15-40 ft) in height, the area in and around State and National Register-listed Aquinnah Town Hall has no view of the ocean or SWDA due to obstructing dense vegetation and topography.



View southeast toward the SWDA; viewshed obstructed.

Nantucket Existing Conditions Photolocations

A total of 14 locations were selected for an existing conditions survey of Nantucket. These locations are in proximity to some historic or archaeological resources. The 14 locations below provide a variety of locations from directly along the shoreline to upper terrain inland locations (see Figure A-2). The photographs are for reference purposes only to view existing topography, vegetation, and structures as part of a field review of obstructing features on the landscape affecting potential visibility of the SWDA. The photo simulations in Appendix III-H.a provide representative views towards the SWDA for the Nantucket Historic District.

LEGEND

① Photolocation

▭ Municipal Boundary

Scale 1:84,000
1 inch = 7,000 feet



Basemap: 2018 World Imagery, Esri



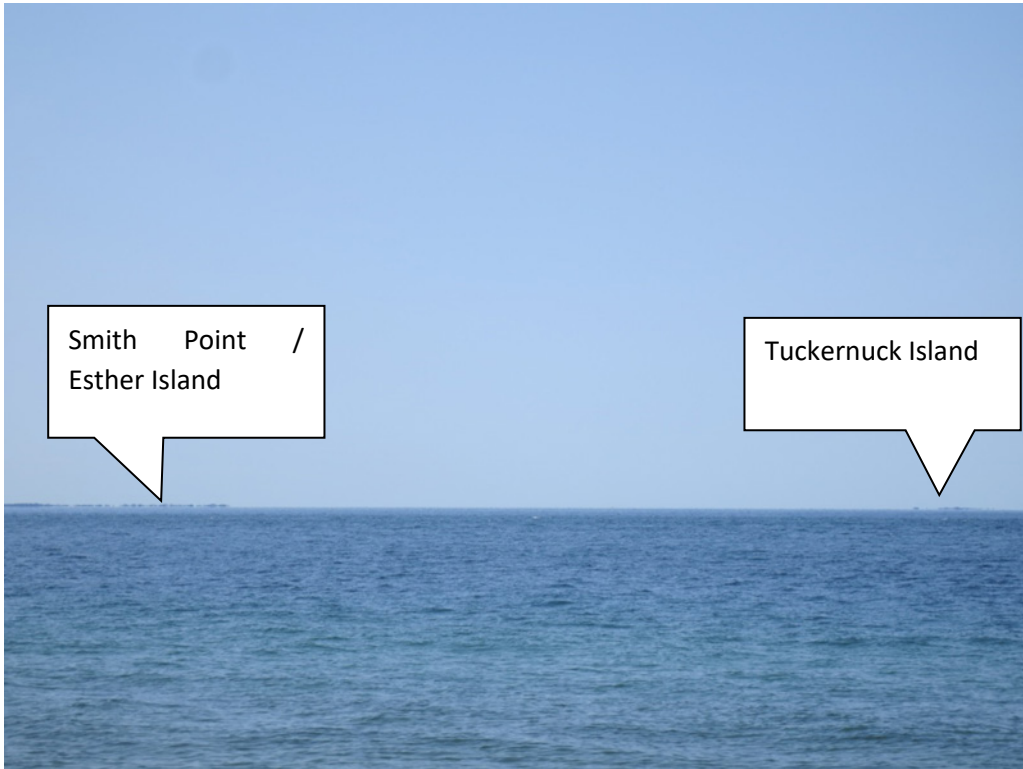
Vineyard Wind 501 South



Figure A-2
Nantucket Existing Conditions Photolocation Map

Photolocation #1 / Great Point Lighthouse

Located at the northern end of the island is the Great Point Lighthouse, constructed in 1985 as a replacement for the original 19th-century lighthouse that was lost during a storm. Stones from the original lighthouse were salvaged and reused in the replacement built further inland. View toward the SWDA is possible between Smith Point and Esther Island to the east and Tuckernuck Island to the west.



View southwest toward the SWDA; Smith Point / Esther Island is at left and Tuckernuck Island at right.

Photolocation #2 / Siasconset Golf Club

Located at 260 Milestone Road (a main thoroughfare on the island), the Siasconset Golf Club is located on a small rise and occupies an area largely devoid of significant tree growth. The golf course can be observed as far away as the Sankaty Head Lighthouse to the northeast on Baxter Road, as much of the area in between has been cleared. Limited view toward the SWDA can be obtained from this location due to vegetation and topography.



View southwest toward the SWDA; view is partially obstructed by vegetation and topography.

Photolocation #3 / 54 Low Beach Road

Low Beach Road is located at the southeastern corner of the island. The road starts at the intersection of Morey Lane and Ocean Avenue and terminates at Tom Nevers Pond. Few houses are on the ocean side of the road, which looks down to the ocean past low scrub brush, dunes, and grassed areas. Buildings in the area largely consist of mid- to late-20th century single-family residences one to two and half stories in height. Due to the location, only an oblique view toward the SWDA at the southwest is possible; however, most buildings are oriented south to southeast, to take in the full view of the water (if present).



View toward the SWDA from 54 Low Beach Road; although largely obstructed, the SWDA is viewable at background left.

Photolocation #4 / Low Beach

Low Beach is located at the southeastern corner of the island. Only an oblique view toward the SWDA at the southwest is possible. The beach has short dunes 1.2-1.8 m (4-6 ft) in height and a mild grade down to the water.



View southwest across Low Beach toward the SWDA.

Photolocation #5 / Tom Nevers Road

Tom Nevers Road is bordered by mid- to late-20th century two and a half story homes set on large lots. The road is also bordered by large hedges and trees planted to ensure privacy among the residences. Only an oblique view toward the SWDA at the southwest is possible from this location.



View southwest toward SWDA is partially obstructed, but a water view and the SWDA are visible at background, right.

Photolocation #6 / Tom Nevers Field

Tom Nevers Field is located at the end of Tom Nevers Road. The field is set back from the shoreline by dunes and a small bluff roughly 3-3.6 m (10-12 ft) in height. The immediate area is largely devoid of trees and has low scrub brush and grassed areas. View southwest toward the SWDA is possible from this location.



View southwest toward the SWDA.

Photolocation #7 / Surfside Road

Surfside Road runs north to south at the southern end of the island in the village of Surfside. At its southern end, Surfside Road intersects with Western Avenue running east to west, which has early- to mid-20th century residences along its south side with a clear view of the ocean toward the SWDA. Approximately 152.4 m (500 ft) of dunes, grassed areas, and scrub brush are between the residences and the beach. Residences on the northern side of Western Avenue have their water views partially obstructed by neighboring properties and vegetation, but views toward the SWDA are possible.



View to the southwest toward the SWDA from the intersection of Surfside Road and Western Avenue, SWDA viewable at left.

Photolocation #8 / Miacomet Golf Club

Located at 12 West Miacomet Road, the Miacomet Golf Club has an open course with small knolls and sporadic mature tree growth approximately 7.6-9.1 m (25-30 ft) in height. Given the lack of significant vegetation, a view of the ocean and SWDA is possible at this location.



View southwest toward SWDA.

Photolocation 9 / Bartlett's Farm

Bartlett's Farm a 19th century farm complex, is located at 30 Bartlett Farm Road. As a farm, the fields provide a wide-open view of the surrounding area. View toward the SWDA is possible through the fields. On nearby properties, existing tree lines and residential development obstruct the view of the SWDA, creating a narrow inland view corridor at this location.



View toward SWDA, visible at background right.

Photolocation #10 / Heller's Way and Hummock Pond Road

Hellers Way runs roughly east to west between Hummock Pond Road and Walbang Avenue. At its southern end, Hummock Pond Road terminates at Cisco Beach with views toward the SWDA. Cisco Beach has a small bluff approximately 3 m (10 ft) in height. Vegetation in the area consists of sporadic tree growth, approximately 7.6 m (25 ft) in height, along with shrubbery and grassed areas. Development in this area consists of two and half story 20th century single-family residences. The SWDA view along the southern end of Hummock Pond Road diminishes quickly, with a narrow view corridor along Hummock Pond Road terminating after 243 Hummock Pond Road heading north. At the intersection of Hummock Pond Road and Hellers Way no ocean view is possible.



View southwest toward the SWDA is obstructed by vegetation.

Photolocation #11 / Barrett Farm Road

Barrett Farm Road originates at its northern end at Madaket Road. The road is elevated, originating just south of Trots Hills and has a view overlooking Trots Swamp. There are few buildings along the road and the area has dense vegetation with mature trees approximately 7.6-10 m (25-35 ft) in height. Due to the elevation and a gap in vegetation, view of the SWDA is possible at the northern end of the road and again at the southern end of the road where a small rise permits view over the dunes at the shoreline.



View southwest toward the SWDA via gap in existing vegetation.

Photolocation #12 / Washington Street and Madaket Road

The village of Madaket largely consists of early- to mid-20th century residences one to two and a half stories in height. The village is centered along Madaket Road with short intersecting streets running off of it. The area has sporadic mature tree growth 7.6-10.6 m (25-35 ft) in height along with shrubbery and grassed areas. From H Street northward, a view toward the SWDA along Madaket Road is obstructed. Madaket Beach at the terminus of Madaket Road has a clear view toward the SWDA.



View southwest toward the SWDA from the intersection of Madaket Road and Washington Avenue; SWDA is visible at background left and center.

Photolocation #13 / Massachusetts Avenue Boat Launch

Adjacent to Madaket is Smith Point with a dense cluster of early- to mid-20th century single family residences, one to two and a half stories in height. This area also has a section of dense tree growth 10.6-12.1 m (35-40 ft) in height. The boat launch is located on Madaket Harbor and the view toward the SWDA is possible.



View southwest toward the SWDA.

Photolocation #14 / Eel Point

At the north end of Madaket Harbor is Eel Point and the Eel Point Marsh. Eel Point has large dunes 3.6-4.5 m (12-15 ft) in height along with grassed areas and scrub brush. From an elevated vantage point atop a dune, view toward the SWDA is possible.



View southwest toward the SWDA.