



Plate D308. Newport, CCRI Newport Campus, view north.



Plate D309. Middletown, toward Coddington Point from Gate 17, view southwest.



Plate D310. Middletown- Proposed Agricultural District at Green Lane and West Main Road, view southwest.



Plate D311. Middletown- Proposed Agricultural District at Green Lane and West Main Road, view northwest.



Plate D312. Middletown, from golf course, view west.

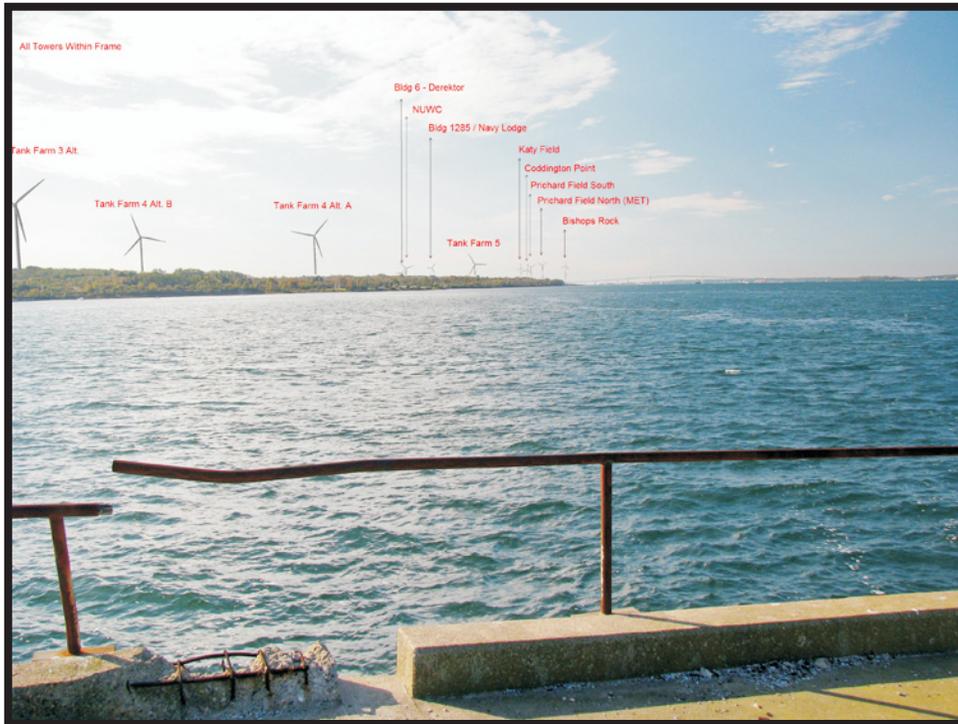


Plate D313. Portsmouth, view from Melville Pier, view south.

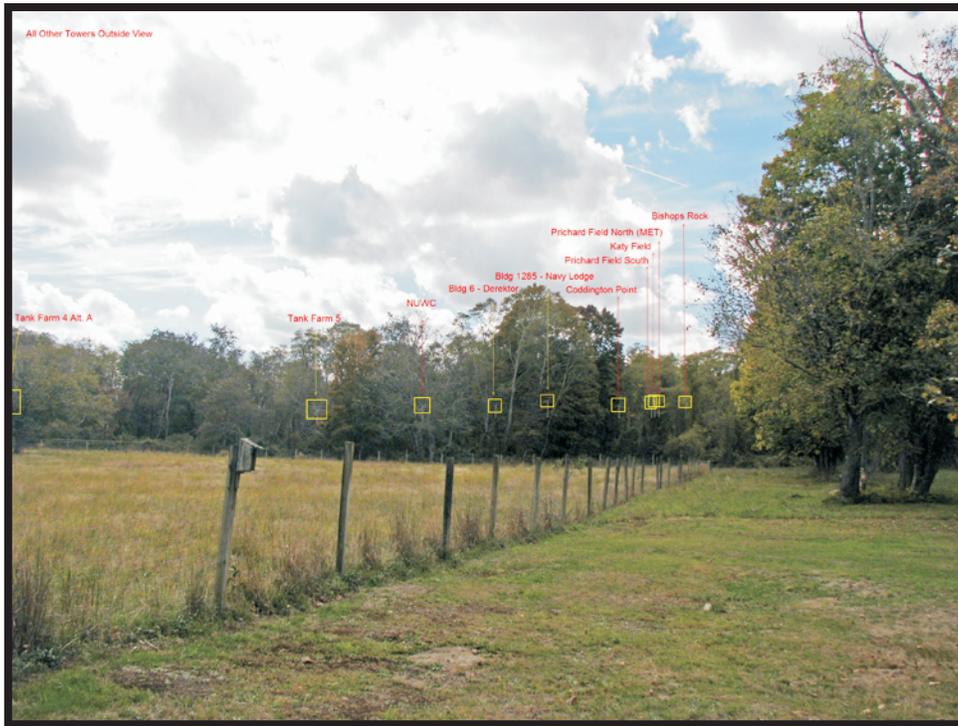


Plate D314. Portsmouth (Prudence Island), Farnham Farm, view south.



Plate D315. Jamestown, toward Coaster's Harbor Island/Coddington Point, view east.



Plate D316. Jamestown, Windmill Hill National Historic District, view east.

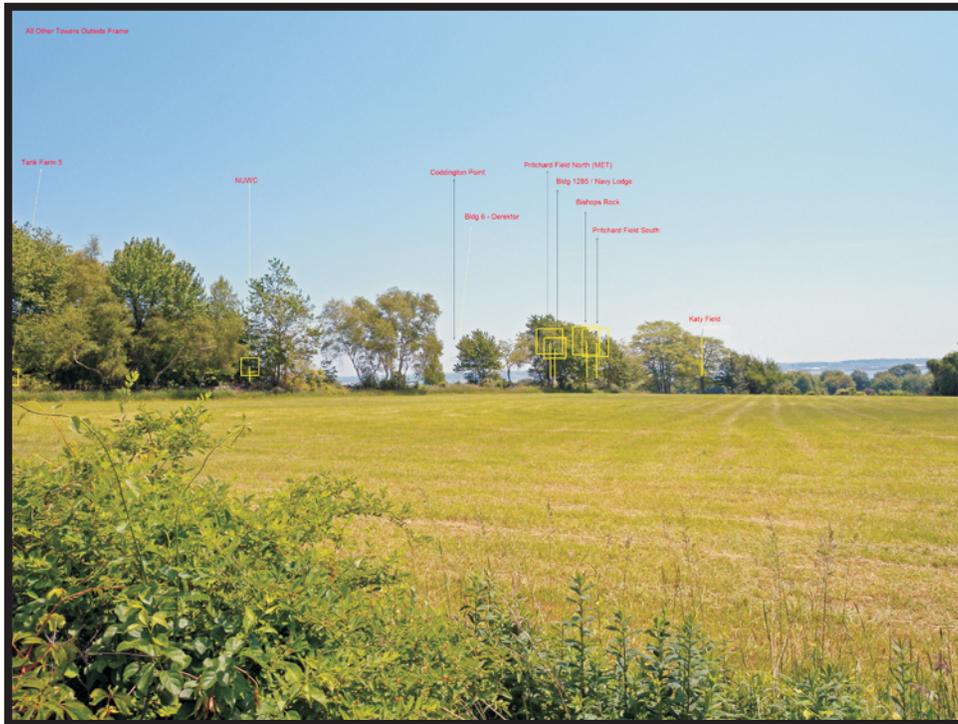


Plate D317. Jamestown, Windmill Hill National Historic District, view northeast.



Plate D318. Jamestown, view from downtown harbor, view northeast.



Plate D319. Jamestown, Fort Wetherill, view north.



Plate D320. Jamestown, near Conanicut Island Light, view southeast.



Plate D321. Jamestown, Conanicut Park, view east.



Plate D322. Newport, Cypress Street, view northwest toward Coaster's Harbor Island [1] (Plate D288) and north toward Coddington Point [2] (Plate D289).



Plate D323. Newport, Bowens Wharf, view north [3] (Plate D290).



Plate D324. Newport, America's Cup Avenue, view north [4] (Plate 291).



Plate D325. Newport, Bellevue Avenue Casino, view north [5] (Plate 292).



Plate D326. Newport, Ida Lewis Yacht Club, view north [6] (Plate 293).



Plate D327. Newport, Fort Adams, views northeast [7] (Plate 294), north [8] (Plate 295), and north [9] (Plate 296).



Plate D328. Newport, the Breakers from Cliff Walk, view north [10] (Plate 297) and view northwest [10a] (Plate 298).



Plate D329. Newport, Battery Park, view north [11] (Plate 299), and Common Burying Ground/Island Cemetery, view northwest [13a] (Plate 303).



Plate D330. Newport, Common Burying Ground/Island Cemetery, view northwest [13] (Plate 302).



Plate D331. Newport, Touro Street at Bellevue Avenue [14] (Plate 304) and Washington Square [15] (Plate 305), views northwest.



Plate D332. Newport, Cliff Walk at Memorial Boulevard, view northwest [16] (Plate 306).



Plate D333. Newport, Eisenhower House, view north [17] (Plate 307).



Plate D334. Narragansett Bay, between Jamestown and Rose Island, view northeast [12] (Plate 300).



Plate D335. Narragansett Bay, between Jamestown and Rose Island, view northeast [12a] (Plate 301).



Plate D336. Newport, CCRI Newport Campus, view north [18] (Plate 308).

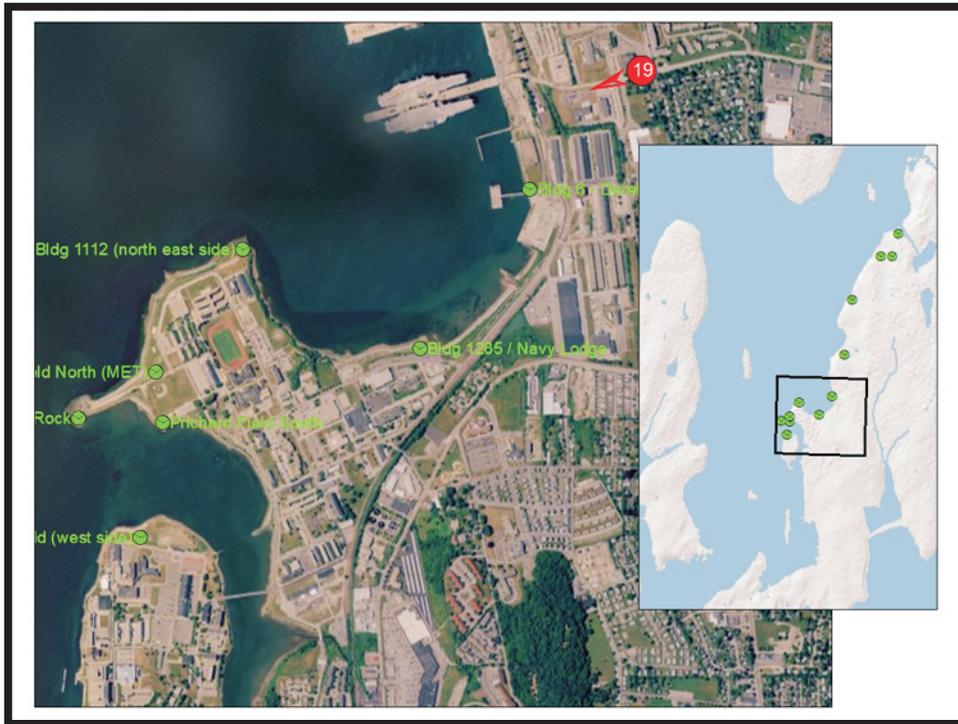


Plate D337. Middletown, Gate 17, view southwest [19] (Plate 309).



Plate D338. Middletown, Agricultural District (Simmons Farm), view southwest [20] (Plate 310).



Plate D339. Middletown, Agricultural District (Simmons Farm), view northwest [20a] (Plate 311).



Plate D340. Middletown, golf course, view west [21] (Plate 312).

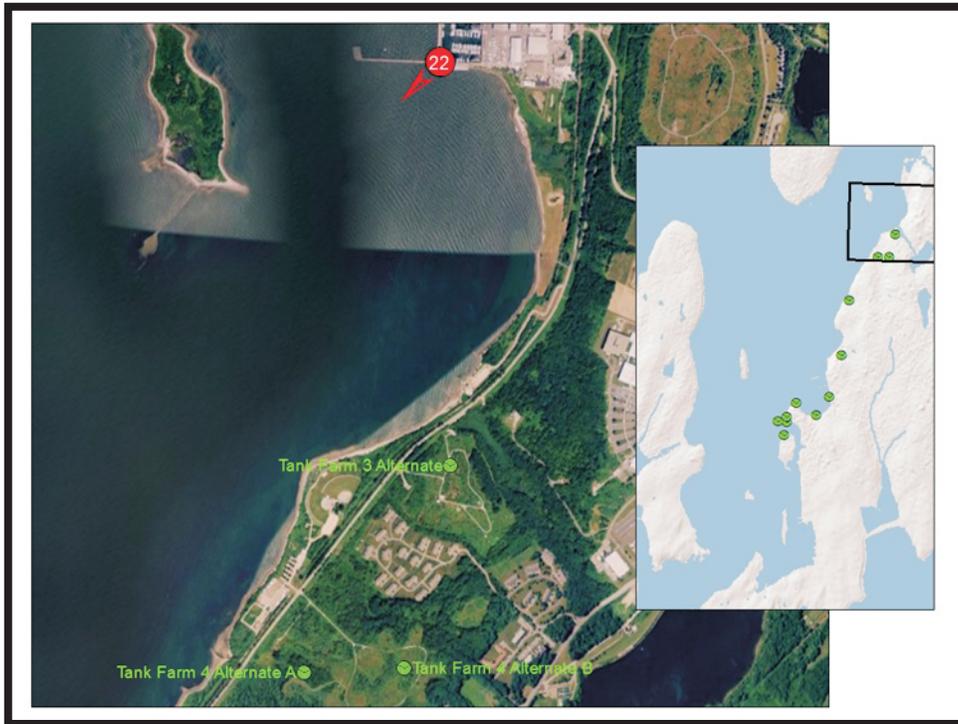


Plate D341. Portsmouth, Melville Pier, view south [22] (Plate D313).

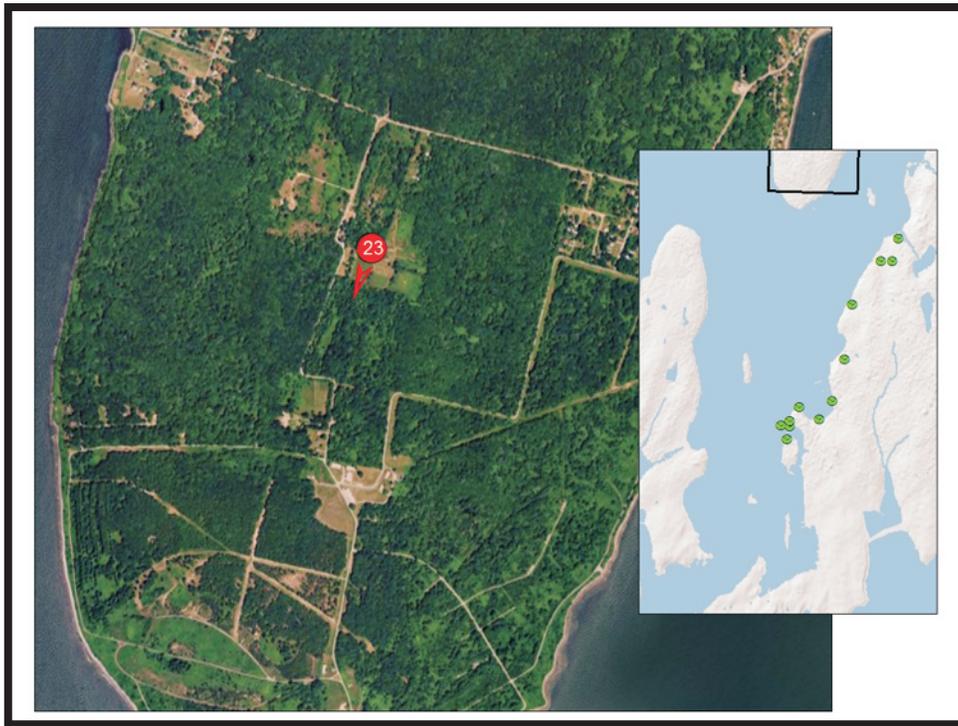


Plate D342. Portsmouth, Farnham Farm, view south [23] (Plate D314).



Plate D343. Jamestown, toward Coaster's Harbor Island/Coddington Point, view east [24] (Plate 315).



Plate D344. Jamestown, Windmill Hill HD, view east [25] (Plate D316).



Plate D345. Jamestown, Windmill Hill toward Coaster's Harbor Island, view northeast [25a] (Plate 317).



Plate D346. Jamestown, view from downtown harbor, facing northeast [26] (Plate 318).

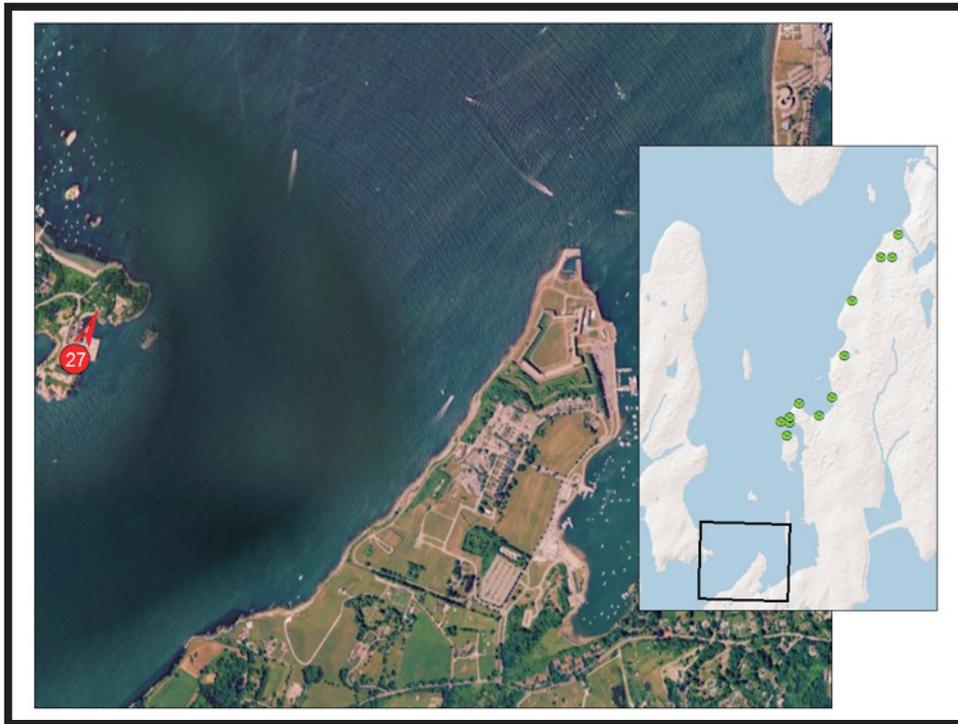


Plate D347. Jamestown, Fort Wetherill, view north [27] (Plate 319).



Plate D348. Jamestown, near Conanicut Island Light, view southeast [28] (Plate 320).



Plate D349. Jamestown, Conanicut Park, view east [29] (Plate 321).

REPORT ADDENDUM

June 2011

Revised January 2012

INTRODUCTION

Following the original submission of the “Historical Resources Assessment for the Newport Naval Station Viewshed Study, Newport County, Rhode Island” report in January, 2011, the Navy reduced the number of proposed wind turbines from a total of 22 to 12. While twelve sites were considered for this revised study, the actual number of turbines installed will likely be less than twelve. Original tower locations 1, 3, 8, 11, 12, 13, 15, 17, 19, and 22 were eliminated. Additionally, the height of the remaining proposed turbines were lowered to conform to maximum allowable heights as allowed by Federal Aviation Administration guidelines from between a minimum of 211 feet and a maximum of 459 feet.

These changes rendered the conclusions and recommendations made in Gray & Pape’s original report moot. The Rhode Island Historical Preservation & Heritage Commission (RIHPHC), which acts as the State Historic Preservation Office (RISHPO), requested that viewshed analysis and photo-simulations for the remaining tower locations be redone to reflect the above changes. The SHPO requested that the photo-simulations include all towers as a single group, rather than as discrete groupings as had been done in the first study. Additionally, the SHPO requested a number of supplemental photo-simulations to the existing photos:

- **Newport** – Bellevue Avenue near the Casino: photo to be taken at a different angle.
- **Newport** – the Breakers: photo to be taken slight further north at a different angle.
- **Newport** – Narragansett Bay: photo to be taken from a different angle.
- **Newport** – Island Cemetery: photo to be taken from a different angle.
- **Middletown** - Agricultural District (Simmons Farm): photo to be taken from a different angle.
- **Jamestown** – Windmill Hill Historic District: photo to be taken from different location and at a different angle.
- **Jamestown** – Conanicut Park: photo to be taken from slightly different location and at a different angle.

In instances where the turbines would be obscured by existing vegetation or structures, the photo-simulations illustrate the turbines as outlines in front of the obstructions to give a sense of their location beyond. This illustrative approach also was specifically requested for the following of the previously submitted photo-simulations:

- **Newport** – America’s Cup Avenue
- **Newport** – Bellevue Avenue near the Casino
- **Newport** – the Breakers
- **Newport** – Island Cemetery
- **Newport** – Touro Street at Bellevue Avenue
- **Jamestown** – Windmill Hill Historic District

Gray & Pape took additional viewshed photos, created the photo-simulations as described above, conducted visual analysis, and prepared this addendum and revision to the original Chapter 5.0 of the report, as follows.

5.0 CONCLUSIONS AND RECOMMENDATIONS (REVISED CHAPTER 5)

A project such as the proposed one can create a variety of effects to the surrounding area, or can create health and safety concerns and various ecological impacts. These effects can be created during construction, can be due to operational noise of the turbines (including substations and transmission lines), or can create health and safety and various ecological impacts. The purpose of Gray & Pape's investigation was to assess potential visual effects on historic properties only.

5.1 Visual Effects

Visual effects occur as a result of the introduction of visual elements that diminish the integrity of historical resources and view corridors. Visual effects also can be caused by changes to physical features within the setting of properties that contribute to their historical significance. In these instances, the visual effects to the historical resources would be considered adverse, as defined in *36 CFR Part 800*.

To quantify and illustrate the proposed Navy wind tower facilities' likely visual effects, Gray & Pape prepared viewshed analyses and photo simulations of the towers *in situ*; these simulations follow this addendum. The technical information gathered and recorded by the camera during photography of the proposed tower locations is used by the WindPro program to generate accurate simulations of the proposed towers. Using these photo-simulations, it is possible to rank the proposed towers with regard to level of visual effect, from least effect to most effect. The topography of Aquidneck and Conanicut Islands has high points of 260 feet and 130 feet, respectively. With almost half of the proposed towers rising to a height of 459 feet, it can be assumed that the proposed wind towers would have a visual effect throughout the study area. Based on the archival research, fieldwork investigations, and photo-simulations that were undertaken as part of this project, Gray & Pape believes that the presence of the proposed wind turbines would have a visual effect on the surrounding communities.

A "visual effect" can be defined as any change in the visual environment, positive or negative, that influences a viewer's ability to interpret the surrounding cultural landscape, whether it is a building, an agricultural field, or a scenic view. There is no "minimum" number of properties within a historic district that must be affected by a proposed installation before a historical resource is considered affected; a historical resource either is or is not affected, and if it is affected, the effect is either adverse or not adverse. The introduction of an element that is out of scale or out of character with the historical resource, such as a 460-foot wind turbine, draws the attention of the viewer towards the out-of-scale element.

By ranking the level of visual effect, one can assess the level of effect the undertaking would have on the community, from “no effect” to “no adverse effect” to “adverse effect.” This can be done by comparing the viewsheds in the existing environment to those viewsheds with the simulated wind turbines and determining the level of contrast between the two. By comparing the visual contrast between the two views, one can determine the level of effect.

If the lead Federal agency and RISHPO find no contrast between the before and after images, it can be determined there will be *no effect*. This situation would only be found in the event that the towers were not constructed. If it is found that there is a weak contrast between the before and after views, it can be said that there will be *no adverse effect* in the undertaking. It is when a moderate or strong contrast is created that the project would be found to have an *adverse effect*. Based on photo-simulations, Gray & Pape was able to rank the proposed wind turbines from those that would have the least visual effect if constructed to those that would have the most visual effect from the selected locations.

5.2 Levels of Visual Impact

The final number of proposed turbines is 12 (see Table 1). For the purpose of this report addendum, viewshed analysis was conducted and photo-simulations were created taking all 12 turbines into account as a whole at their new heights, rather than as the nine groups in original submission.

Site Name in Environmental Assessment	Site Number in Viewshed Study	Group Number in Viewshed Study	Maximum Height (feet) Analyzed Initially	Maximum Height (feet) Allowable by Federal Aviation Administration and Analyzed in Chapter 5 and Shown in Photo-Simulations in Appendix D
Katy Field	2	1	459	459
Prichard Field South	4	2	459	459
Bishops Rock	5	2	459	459
Prichard Field North	6	2	459	459
Coddington Point	7	2	459	345
Navy Lodge	9	2	459	459
Derektor Shipyard	10	3	459	335
Tank Farm 5	14	6	459	211
Tank Farm 4A	16	7	459	339
Tank Farm 4B	18	7	459	290
Tank Farm 3	20	8	459	307
Naval Undersea Warfare Center	21	9	459	294

This ranking of effect is based on data generated with WindPro software in the photo-simulations, which quantifiably shows from which of the selected photo locations the turbine group would be most and least visible in the APE based on the number of turbines shown. The results of analysis are listed in Table 2 below. For the purposes of ranking their visual impact, locations which had the most number of towers visible within the field of view, or partially obscured but still within the field of view, were ranked higher than those with fewer visible. The specific WT locations are listed below in order of least visual effect to most visual effect.

- Least Visual Effect*
- ↓ **WT 18 (Tank Farm 4B).**
WT 18 will be fully visible from 8 locations, and obscured from 5 locations.
 - ↓ **WT 16 (Tank Farm 4A).**
WT 16 will be fully visible from 8 locations, and obscured from 6 locations.
 - ↓ **WT 14 (Tank Farm 5).**
WT 14 will be fully visible from 8 locations, and obscured from 9 locations.
 - ↓ **WT 20 (Tank Farm 3).**
WT 20 will be fully visible from 9 locations, and obscured from 4 locations.
 - ↓ **WT 21 (NUWC).**
WT 21 will be fully visible from 10 locations, and obscured from 8 locations.
 - ↓ **WT 10 (Building 6-Derektor Shipyard).**
WT 10 will be fully visible from 13 locations, and obscured from 5 locations.
 - ↓ **WT 9 (Building 1285/Navy Lodge).**
WT 9 will be fully visible from 14 locations, and obscured from 6 locations.
 - ↓ **WT 7 (Building 1112/Coddington Point).**
WT 7 will be fully visible from 14 locations, and obscured from 8 locations.
 - ↓ **WT 6 (Prichard Field North).**

WT 6 will be fully visible from 14 locations, and obscured from 10 locations (same as WT 4 below).



WT 4 (Prichard Field South).

WT 4 will be fully visible from 14 locations, and obscured from 10 locations (same as WT 6 above).



WT 5 (Bishops Rock).

WT 5 will be fully visible from 14 locations, and obscured from 14 locations.



Most Visual Effect

WT 2 (Katy Field).

WT 2 will be fully visible from 16 locations, and obscured from 12 locations.

Table 2. Photomontage Tower Visibility and Distance

Addendum Plate	Photo File Name	Tank Farm 3 (WT20)	Tank Farm 4A (WT16)	Tank Farm 4B (WT 18)	Tank Farm 5 (WT 14)	NUWC (WT 21)	Derektor Shipyard (WT 10)	Navy Lodge (WT 9)	Coddington Point (WT 7)	Prichard Field North (WT 6)	Prichard Field South (WT 4)	Bishops Rock (WT 5)	Katy Field (WT 2)
D288	2-01 Newport toward Coasters Island from Cypress.jpg	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	2053	1586
D289	2-02 Newport toward Coddington Point from Cypress.jpg	↔	↔	↔	5943	↔	↔	2214	2521	2134	1954	2044	1557
D290	3-06 bowens wharf.jpg	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	3612	3149
D291	3-07 Americas Cup ave.jpg	↔	↔	↔	↔	↔	↔	3900	4309	3955	3776	3881	3414
D292	6-01 Newport Bellevue Avenue near the Casino view NW.jpg	↔	↔	↔	7816	5938	4767	4251	4726	4414	4238	4370	3899
D293	3-09 ida lewis yacht club.jpg	↔	↔	↔	8755	7025	5655	5037	5331	4903	4724	4758	4325
D294	3-10 fort adams.jpg	10955	10096	10234	8513	6814	5452	4792	4959	4482	4309	4285	3900
D295	3-11 fort adams.jpg	10875	10014	10156	8429	6733	5373	4711	4867	4388	4215	4186	3805
D296	4-02 Fort Adams 2.jpg	11186	10323	10467	8733	7043	5686	5021	5160	4673	4504	4464	4094
D297	4-03 Breakers 5.jpg	↔	↔	↔	↔	7605	6343	5889	6414	6132	5960	6103	5632
D298	6-02 Newport the Breakers view NW.jpg	↔	↔	↔	↔	↔	↔	↔	6361	6083	5911	6058	5586
D299	4-01 Battery Park.jpg	↔	↔	↔	↔	↔	↔	↔	2906	2516	2360	2425	1962
D300	5-02 Narragansett Bay.jpg	10340	9457	9645	7835	6252	4987	4311	4229	3704	3564	3429	3186
D301	6-04 Narragansett Bay view NNE.jpg	9824	8941	9126	7320	5729	4459	3783	3710	3187	3044	2918	2662
D302	5-03 Island Cemetery.jpg	↔	↔	↔	↔	↔	↔	↔	↔	2779	2604	2743	2271
D303	6-03 Newport Island Cemetery view N.jpg	8770	7944	8042	6430	4694	3334	2758	3179	2850	2674	2807	2336
D304	5-04 Touro at Bellevue intersection.jpg	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	3756	3284
D305	5-05 Washington Square.jpg	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	3363	2892
D306	5-06 Cliff Walk at Memorial Blvd.jpg	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
D307	5-07 Eisenhower House.jpg	11892	11029	11174	9437	7749	6393	5728	5856	5364	5197	5147	4788
D308	5-11 from CCRI Newport Campus.jpg	6376	5533	5651	4000	2265	903	↔	↔	↔	↔	↔	↔
D309	2-03 Newport toward Coddington Point from Gate 17.jpg	↔	↔	↔	↔	↔	502	1181	1433	1912	1997	2229	2381
D310	2-05 Middletown from Simmons Farm.jpg	↔	↔	↔	↔	2117	↔	↔	4159	4685	4810	4984	5180
D311	6-05b Middletown Agri District view NW.jpg	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
D312	5-10 towards Group 9 from golf club.jpg	↔	↔	↔	↔	704	↔	↔	↔	↔	↔	↔	↔
D313	2-08 Porttsmouth view from Melville Pier.jpg	1418	2173	2123	3734	5442	6813	7457	7338	7852	8007	8111	8409
D314	5-01 Farnham Farm Pl.jpg	↔	4442	↔	5332	6948	8203	8719	8344	8778	8959	8952	9359
D315	2-09 Jamestown towards Coasters Coddington.jpg	↔	↔	↔	↔	↔	4747	4254	3719	3326	3324	3032	3223
D316	3-01 windmill hill.jpg	↔	↔	↔	↔	↔	↔	4878	↔	3948	3958	3663	3877
D317	6-06 Jamestown Windmill Hill HD view E.jpg	↔	↔	↔	7083	6044	5317	4849	4287	3919	3927	3633	3844
D318	3-03 Jamestown harbor.jpg	10562	9675	9907	8064	6667	5572	4943	4640	4134	4047	3819	3761
D319	3-04 fort wetherill.jpg	11840	10956	11142	9335	7742	6457	5779	5726	5202	5060	4929	4676
D320	5-09 Conanicut Light.jpg	6836	6388	6733	↔	↔	↔	↔	↔	↔	↔	↔	↔
D321	6-07 Jamestown near Conanicut Light view E.jpg	6245	5709	6059	5099	↔	↔	↔	↔	↔	↔	↔	↔

xxx	Within Field of View, Visible (Distance in Meters)
xxx	Within Field of View, Obscured (Distance in Meters)
↔	Outside Field of View

Visual effect naturally decreases with distance and density of turbine placement. While first impression would suggest that greater density would create greater visual effect, in fact placing turbines closer together creates the visual impression of a cohesive, single unit, rather than a larger, more visually intrusive series of turbines if spread across the landscape. These effects can be classified as Zones, and can be defined as:

- Zone I – Visually dominant: the turbines are perceived as large scale and movement of blades is obvious. The immediate landscape is altered.
- Zone II – Visually intrusive: the turbines are important elements on the landscape and are clearly perceived. Blades movement is clearly visible and can attract the eye. Turbines not necessarily are dominant points on the view.
- Zone III – Noticeable: The turbines are clearly visible but not intrusive. The towers are noticeable as an element in the landscape. Movement of blades is visible in good visibility conditions, but the turbines appear small in the overall view.
- Zone IV – Element within Distant Landscape - The apparent size of the turbines is very small. Turbines are as any other element in the landscape. Movement of blades is generally indiscernible.

With the proposed turbines now being treated as a single group, rather than as multiple groups in the initial study, the method of determining visual effects is to count the number of turbines visible from the RIHPHC selected locations. Locations analyzed that are historic properties or within the boundaries of historic districts are marked with an asterisk below. Some of the turbines will not be visible from some of these locations.

- ***Jamestown – Windmill Hill National Historic District (NHD) (Plate D316):** 5 WTs visible.
This location was chosen at the request of the RIHPHC as it is listed on the NRHP. It is located on a high point of Conanicut Island and contains the intact remains of a windmill and Quaker Meeting house, both built in 1787, as well as a mid-19th century residence and agricultural fields. WT 2 (Katy Field), WT 4 (Pritchard Field South), 5 (Bishops Rock), 6 (Pritchard Field North), and 9 (Navy Lodge) will be visible from street level.
- ***Jamestown – Windmill Hill National Historic District (NHD) (Plate D317):** 4 WTs will be visible, 5 with obscured visibility.
This location was chosen at the request of the RIHPHC as it is listed on the NRHP. It is located on a high point of Conanicut Island and contains the intact remains of a windmill and Quaker Meeting house, both built in 1787, as well as a mid-19th century residence and agricultural fields. WTs 10 (Derektor Shipyard), 9 (Navy Lodge), 7 (Coddington Point), and 2 (Katy Field) will be visible, and WT14 (Tank Farm 5), 21 (NUWC), 6 (Prichard Field North), 4 (Prichard Field South), and 5 (Bishops Rock) will have obscured visibility from street level.
- **Jamestown – view from downtown harbor (Plate D318):** All 12 WTs visible.

This location is marked by mid-19th century and early 20th century residences and commercial structures with a sweeping view of Narragansett Bay and the Newport Pell Bridge. All WTs will be visible.

- **Jamestown – Fort Wetherill (Plate D319):** All WTs with obscured visibility.
This location was chosen at the request of the RIHPHC as it is a State park with the intact remains of early 20th century military battlements and production structures. All WTs will have obscured visibility from street level.
- ***Jamestown – near Conanicut Light (Plate D320):** 1 WT visible, 2 with obscured visibility.
This location was chosen at the request of the RIHPHC and is a NRHP-listed property. It is a well preserved example of a late-19th century, Gothic Revival-style structure with gingerbread detailing and a tall, square light tower. WT 20 (Tank Farm 3) will be visible and WT16 (Tank Farm 4A) and WT18 (Tank Farm 4B) will have obscured visibility from street level.
- ***Jamestown – Conanicut Park (Plate D321):** 4 WTs visible.
This location is an area at the northeastern end of Conanicut Island and is considered potentially eligible for listing in the NRHP. It is heavily wooded and marked by numerous late 19th century and early 20th century residences, most of which are located off the main road, near the Narragansett Bay coast. WTs 14 (Tank Farm 5), 16 (Tank Farm 4A), 18 (Tank Farm 4B), 20 (Tank Farm 3) will be visible from street level.
- **Jamestown – towards Coaster’s Harbor Island/Coddington Point (Plate D315):** 7 WTs visible.
This location was chosen as it is at the base of the Newport Pell Bridge, the gateway to Newport, Middletown, and Portsmouth. WTs 2 (Katy Field), 4 (Pritchard Field South), 5 (Bishops Rock), 6 (Pritchard Field North), 7 (Coddington Point), 9 (Navy Lodge), and 10 (Derektor Shipyard) will be visible from street level.
- ***Middletown – from Simmons Farm (Plate D310):** 6 WTs with obscured visibility.
This location was chosen at the request of the RIHPHC as it is the center of a proposed NRHP-eligible Agricultural Historic District. It is dotted with mid- and early-19th century farmhouses and agricultural fields. WTs 2 (Katy Field), 4 (Prichard Field South), 5 (Bishops Rock), 6 (Prichard Field North), 7 (Coddington Point), and 21 (NUWC) will have obscured visibility from street level.
- ***Middletown – from Simmons Farm (Plate D311):** 0 WTs visible.
This location was chosen at the request of the RIHPHC as it is the center of a proposed NRHP-eligible Agricultural Historic District. It is dotted with mid- and

early-19th century farmhouses and agricultural fields. No WTs will be visible from street level.

- **Middletown – from Golf course (Plate D312):** 1 WT visible.
This location is just west of West Main Road in the center of Middletown and close to the town's busy commercial center. WT 21 (NUWC) will be visible from street level.
- **Narragansett Bay – between Rose Island and Jamestown (Plate D300):** 12 WTs visible.
This location was chosen at the request of the RIHPHC. All WTs will be visible from water level.
- **Narragansett Bay – between Rose Island and Jamestown (Plate D301):** 12 WTs visible.
This location was chosen at the request of the RIHPHC. All WTs will be visible from water level.
- **Newport – America's Cup Avenue (Plate D291):** 1 WT visible, 5 with obscured visibility.
This location was chosen at the request of the RIHPHC as it is centrally located in Newport and an area with high visitor traffic in the summer. A mix of mid-19th century and early 20th century commercial structures line the avenue and it is one of the main thoroughfares in Newport. WT 9 (Navy Lodge) will be visible, and 2 (Katy Field), 4 (Prichard Field South), 5 (Bishops Rock), 6 (Prichard Field North), and 7 (Coddington Point), will have obscured visibility from street level.
- ***Newport – Bellevue Avenue Casino (Plate D292):** 2 WT visible, 7 with obscured visibility.
This location was chosen at the request of the RIHPHC as it is a National Historic Landmark property built in 1880. It also falls within the Bellevue Avenue National Historic Landmark District. It was designed by noted architects McKim and White and is considered the founding example of the Shingle Style of architecture. WT 2 (Katy Field) and 7 (Coddington Point) will be visible, and WTs 4 (Prichard Field South), 5 (Bishops Rock), 6 (Prichard Field North) and 9 (Navy Lodge), 10 (Derektor Shipyard), 14 (Tank Farm 5), and 21 (NUWC) will have obscured visibility from street level.
- ***Newport – Ida Lewis Yacht Club (Plate D293):** 8 WTs visible and 1 with obscured visibility.
This location was chosen at the request of the RIHPHC as it is a contributing element to the Ocean Drive National Historic Landmark District. The entrance to the Club gives an unobstructed view northward up Narragansett Bay from below Newport Harbor. The clubhouse of the Club is an original 1853 lighthouse. WTs 2 (Katy Field), 4 (Pritchard Field South), 5 (Bishops Rock), 6 (Pritchard Field North), 7

(Coddington Point), 9 (Navy Lodge), 10 (Derecktor Shipyard), and 21 (NUWC) will be visible and WT14 (Tank Farm 5) will have obscured visibility from street level.

- ***Newport – Fort Adams (Plate D294):** All 12 WTs visible.
This location was chosen at the request of the RIHPHC as it is National Historic Landmark District and the structure itself is a NRHP-listed building. The original Fort Adams was built in 1799 on the site while the current masonry structure was begun in 1824. Fort Adams remained an active military post until 1950. All 12 WTs will be visible from street level.
- ***Newport – Fort Adams (Plate D295):** All 12 WTs visible.
This location was chosen at the request of the RIHPHC as it is National Historic Landmark District and the structure itself is a NRHP-listed building. The original Fort Adams was built in 1799 on the site while the current masonry structure was begun in 1824. Fort Adams remained an active military post until 1950. All 12 WTs will be visible from street level.
- ***Newport – Fort Adams (Plate D296):** All 12 WTs visible.
This location was chosen at the request of the RIHPHC as it is National Historic Landmark District and the structure itself is a NRHP-listed building. The original Fort Adams was built in 1799 on the site while the current masonry structure was begun in 1824. Fort Adams remained an active military post until 1950. All 12 WTs will be visible from street level.
- ***Newport – Battery Park (Plate D299):** 4 WTs visible, 1 with obscured visibility.
This location was chosen at the request of the RIHPHC as it is part of the Newport National Historic Landmark District and affords views toward Narragansett Bay and Coaster’s Island. The Park is situated on the banks of the Bay and flanked by mid-19th and early 20th century residences. WTs 2 (Katy Field), 4 (Pritchard Field South), 5 (Bishops Rock) and 6 (Pritchard Field North) will be visible, and WT 7 (Coddington Point) will have obscured visibility from street level.
- ***Newport – the Breakers from Cliff Walk (Plate D297):** 8 WTs with obscured visibility.
This location was chosen at the request of the RIHPHC as it is a National Historic Landmark and a contributing element in the Ochre Points Cliff Historic District. The Cliff Walk is also a National Recreation Trail. This Italian Renaissance-style structure was designed in 1895 by noted architect Richard Morris Hunt for American Industrialist Cornelius Vanderbilt II as a summer home. WTs 2 (Katy Field), 4 (Pritchard Field South), 5 (Bishops Rock), 6 (Pritchard Field North), 7 (Coddington Point), 9 (Navy Lodge), 10 (Derektor Shipyard) and 21 (NUWC) will obscure visibility from street level.

- ***Newport – the Breakers from Cliff Walk (Plate D298):** 5 WTs with obscured visibility.

This location was chosen at the request of the RIHPHC as it is a National Historic Landmark and a contributing element in the Ochre Points Cliff Historic District. The Cliff Walk is also a National Recreation Trail. This Italian Renaissance-style structure was designed in 1895 by noted architect Richard Morris Hunt for American Industrialist Cornelius Vanderbilt II as a summer home. WTs 2 (Katy Field), 4 (Pritchard Field South), 5 (Bishops Rock), 6 (Pritchard Field North), and 7 (Coddington Point) will have obscure visibility from street level.
- ***Newport – Common Burying Ground/ Island Cemetery (Plate D302):** 4 WTs with obscured visibility.

This location was chosen at the request of the RIHPHC and is listed on the NRHP and is also a contributing resource to the Newport National Historic Landmark District. The cemetery is among the oldest in the City of Newport and contains the remains of many of Rhode Island’s earliest settlers. WTs 2 (Katy Field), 4 (Prichard Field South), 5 (Bishops Rock), and 6 (Prichard Field North) will have obscured visibility from street level.
- ***Newport – Common Burying Ground/ Island Cemetery (Plate D303):** 5 WTs visible, 7 with obscured visibility.

This location was chosen at the request of the RIHPHC and is listed on the NRHP and is also a contributing resource to the Newport National Historic Landmark District. The cemetery is among the oldest in the City of Newport and contains the remains of many of Rhode Island’s earliest settlers. WTs 4 (Pritchard Field South), 6 (Pritchard Field North), 7 (Coddington Point), 9 (Navy Lodge) and 10 (Derektor Shipyard) will be visible, and WTs 2 (Katy Field), 5 (Bishops Rock), 14 (Tank Farm 5), 16 (Tank Farm 4A), 18 (Tank Farm 4B), 20 (Tank Farm 3) and 21 (NUWC) will have obscured visibility from street level.
- ***Newport – Touro Street at Bellevue Avenue (Plate D304):** 2 WT with obscured visibility.

This location was chosen at the request of the RIHPHC and is located in the Newport National Historic Landmark District. WTs 2 (Katy Field) and 5 (Bishops Rock) will have obscured visibility from street level.
- ***Newport – Washington Square (Plate 305):** 2 WTs with obscured visibility.

This location was chosen at the request of the RIHPHC. The Square is an integral part of the Newport National Historic Landmark District, and is overlooked by the Colony House, a Georgian-style structure built in 1741 and listed as a National Historic Landmark. WTs 2 (Katy Field) and 5 (Bishops Rock) will have obscured visibility from street level.

- **Newport – Cliff Walk at Memorial Boulevard (Plate D306):** 0 WTs visible.
This location was chosen at the request of the RIHPHC. The location is within the Ochre Points Cliff Historic District which is a NRHP listed property. It is a heavily trafficked area during the summer months with the entrance to the Cliff Walk, a National Recreation Trail. No WTs will be visible from street level.
- ***Newport – Eisenhower House (Plate D307):** All 12 WTs with obscured visibility.
This location was chosen at the request of the RIHPHC. The structure was built in 1873 to be the residence for Commandants at Fort Adams. It is also nicknamed the “Summer White House” as it was used as a summer residence by President Eisenhower in 1958 and 1960. The structure is listed on the NRHP and also is located in the Fort Adams National Historic Landmark District. All 12 WTs will have obscured visibility from street level.
- **Newport – toward Coaster’s Harbor Island from Cypress (Plate D288):** 2 WTs visible.
This location was chosen for its proximity to Coaster’s Island and the base of the Newport Pell Bridge. WTs 2 (Katy Field) and 5 (Bishops Rock) will be visible from street level.
- **Newport – toward Coddington Point from Cypress (Plate D289):** 5 WTs visible, 2 with obscured visibility.
This location was chosen for its proximity to Coaster’s Island and the base of the Newport Pell Bridge. WTs 2 (Katy Field), 4 (Pritchard Field South), 5 (Bishops Rock), 6 (Prichard Field North), and 7 (Coddington Point) will be visible, and WTs 9 (Navy Lodge) and 14 (Tank Farm 5) will have obscured visibility from street level.
- **Newport – toward Coddington Point from Gate 17 (Plate 309):** 7 WTs visible.
This location was chosen for its view across the Navy Base towards the Newport Pell Bridge and Narragansett Bay. WTs 2 (Katy Field), 4 (Prichard Field South), 5 (Bishops Rock), 6 (Prichard Field North), 7 (Coddington Point), 9 (Navy Lodge) and 10 (Derektor Shipyard) will be visible from street level.
- **Newport – Bowen’s Wharf (Plate 290):** 2 WTs with obscured visibility.
This location was chosen at the request of the RIHPHC as it is centrally located in Newport and an area with high visitor traffic in the summer. It is comprised of multiple early- to mid-19th century commercial structures still in use today. WTs 2 (Katy Field) and 5 (Bishops Rock) will have obscured visibility from street level.
- **Newport – CCRI Campus (Plate D308):** 2 WTs visible, 4 with obscured visibility.
This location is a heavily trafficked area just to the east of the Navy base. WTs 10 (Derektor Shipyard) and 21 (NUWC) will be visible, and WTs 14 (Tank Farm 5), 16 (Tank Farm 4A), 18 (Tank Farm 4B) and 20 (Tank Farm 3) will have obscured visibility from street level.

- ***Portsmouth – Farnham Farm (Plate D314):** 10 WT's with obscured visibility. This location was chosen at the request of the RIHPHC as it is a NRHP-listed property. The property contains a main house constructed ca. 1805, a barn constructed in 1850, and agricultural fields, pasture land, and an orchard. WT's 2 (Katy Field), 4 (Prichard Field South), 5 (Bishops Rock), 6 (Prichard Field North), 7 (Coddington Point), 9 (Navy Lodge), 10 (Direktor Shipyard), 14 (Tank Farm 5), 16 (Tank Farm 4A) and 21 (NUWC) will have obscured visibility from street level.
- **Portsmouth – view from Melville Pier (Plate 313):** All 12 WT's visible. This location is the remains of a World War II Naval installation. Many of the historic structures associated with the base are still standing. All 12 WT's will be visible from street level.

5.2.1 Variables

It should be noted as a *caveat* that all results generated through photo-simulation and shown in the following images are subject to variables. For example, the visual appearance of wind towers will vary depending on the atmospheric conditions, so a photo-simulation using a photo taken on a clear day with deep blue sky will have a different visual appearance than one taken on a heavily overcast, stormy winter day. Also, photos were taken during the summer when trees and shrubs were in full leaf. In some locations, it is quite possible that the same photo taken in winter when all leaves are off the trees would afford one a view of one or more proposed turbines. While there may not be a view of a proposed turbine from the public street, it should not be assumed that private residents or businesses on that street would not see the turbines from their second or third floor windows.

5.3 Recommendations to Mitigate Visual Effect

The most effective method to eliminate the visual effect of the proposed wind turbines is not to construct them at all. If turbines are constructed, other means could be employed to minimize their visual impact on the communities and their surroundings, such as constructing towers at lower heights than the maximum allowable by the FAA. One of the most effective would be to construct the turbines at those locations that have been ranked as having the least visual effect in Section 5.2. Placing the towers as closely together as possible would minimize their visual impact on the landscape as the contrast between tightly placed towers is less than one with the towers spaced further apart.

While visual effect is very specific to the site of a particular wind energy facility, several characteristics in the design and siting of wind farms have been identified to minimize their potential visual impact:

- similar size and type of turbines on a wind farm or several adjacent wind farms;
- light grey, beige, or white colors on turbines;
- three blades;

- blades rotating in the same direction;
- a low number of large turbines is preferable to many smaller wind turbines.

Since the proposed height of most of the towers also would visually dominate the landscape and skyline, selective use of coloration and camouflage techniques would help to minimize their visual contrast and therefore lessen their effect on the landscape. Methods employed most commonly include painting the turbine towers and blades a medium to light gray-blue that tends to visually disappear against the sky. Other camouflaging techniques include painting the base in gradations of green or the predominant color in the immediate surroundings to visually blend with the ground-level landscape.

Mitigation measures to prevent and/or minimize visual impact from wind farms on the landscape can be summarized as follows:

- design of wind farm according to the peculiarities of the site and with sensitivity to the surrounding landscape;
- selection of wind turbine design (tower, color) according to landscape characteristics;
- selection of neutral color and anti-reflective painting for towers and blades;
- underground cables;
- lights for low altitude flight only for more exposed towers.

Aquidneck Island currently has three active wind turbine generators: one owned by the Town of Portsmouth at Butts Hill, adjacent to Portsmouth High School in Portsmouth, one at Portsmouth Abbey School in Portsmouth, and one at the Aquidneck Corporate Park in Middletown. The Town of Portsmouth turbine is a 1500 kilowatt (kW) generator and stands 366 feet from base to top of the blade tip. The Portsmouth Abbey turbine is a 660 kW generator and stands 240 feet from base to top of the blade tip, and that at the Aquidneck Corporate Park is a 100 kW turbine and 150 feet tall from base to blade tip. Photographs of these three sites are included in Plates D277-D288 as comparative examples of the visual effects the proposed WTGs might have on the Aquidneck Island landscape.