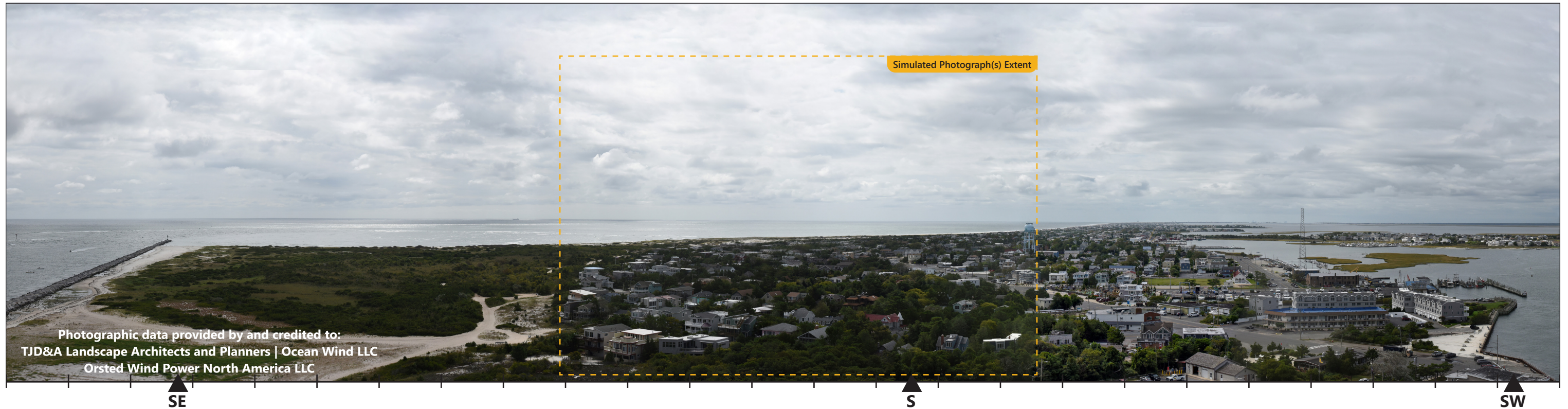
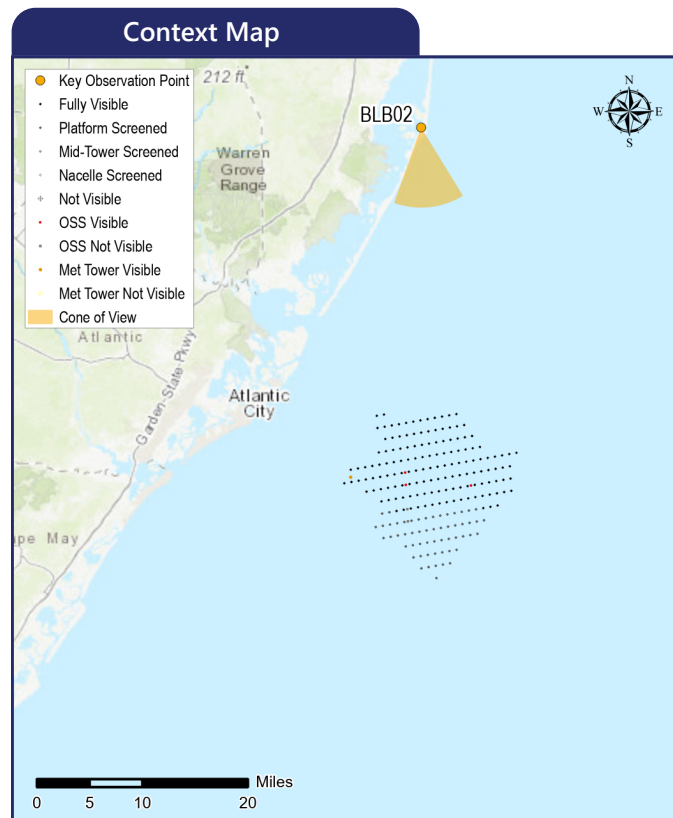


BLB02 Barnegat Lighthouse State Park

Barnegat Light Borough. Ocean County, New Jersey



The image above is a +/- 124° panorama photograph from Barnegat Lighthouse State Park, panning clockwise from southeast (left) to southwest (right). The yellow rectangle represents the extent of the simulated photograph(s).



Simulation Information

Coordinates: 39.76434°N, 74.10624°W
 Character Area: Recreation, Seascape (SCA)
 User Group: Residents/Tourists
 Direction of View: South
 Distance to Nearest Visible Turbine: 27.32 miles
 Visually Sensitive Resource: Barnegat Lighthouse State Park, Barnegat Lighthouse State Park- Fishing Access

Environmental Information

Date Taken: 09/20/2018
 Time: 11:34 AM
 Temperature: 72°F
 Humidity: 73%
 Visibility: 10 miles
 Wind Direction: East-northeast
 Wind Speed: 9 mph
 Conditions Observed: Cloudy

Photograph Information

Camera: Nikon D750
 Resolution: 24 Megapixels
 Focal Length: 50mm
 Camera Height: 155.70 feet AMSL

Notes

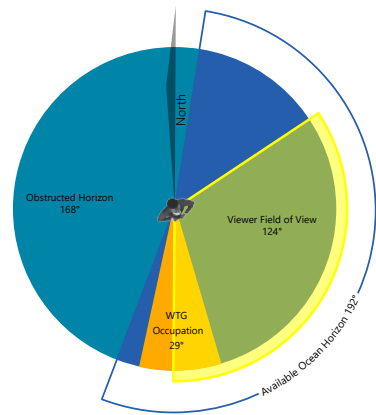
Printed at 100%, the photosimulations are 15 inches wide by 10 inches high. At this size, the photosimulation(s) should be viewed from a distance of 21 inches.

Viewshed Analysis indicates no ground-level visibility from this resource.

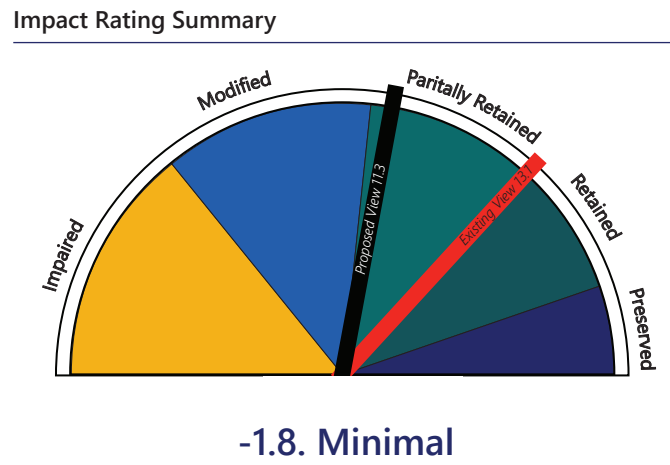
Simulated Photograph(s)



Field of View



Visual Impact Rating



Visual Threshold Level (VTL)

- 2** An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking (Sullivan et al., 2013).
- 4** An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.

Principles of Composition and Factors Affecting Visual Impact Summary

Design Elements	Description
Focal Point	Horizon and neighborhood housing.
Order	Fan of residential structures out to ocean, water tower on the far right, surf edge, ocean and horizon with fluffy clouds above.
Visual Clutter	Mass of residential homes with interspersions of tree canopy.
Movement	Tree canopy, wave, and cloud movement.
Duration & Frequency of View	Short term and occasional due to accessibility and viewer activity.
Atmospheric Conditions	Overcast, visibility will increase on clear/partly cloudy days.
Lighting Direction	Backlit
Scenic or Recreational Value	Barnegat Lighthouse State Park and Fishing Access

Compatibility and Contrast Rating Average

Barnegat Lighthouse State Park			
Resource	Compatibility	Scale	Spatial Dominance
Water Resources	1.8	1.8	1.3
Landform	1.5	1.3	1.3
Vegetation	1.3	1.3	1.3
Land Use	1.5	1.5	1.3
User Activity	2.0	1.8	1.5

1 – Compatible
 2 – Somewhat Compatible
 3 – Not Compatible
 1 – Minimal
 2 – Moderate
 3 – Severe
 1 – Subordinate
 2 – Co-Dominant
 3 – Dominant

Existing Conditions

Scenic Quality: Partially Retained
 Rating Panel Score Average: 13.1
 Rating Panel Score Range: 9.3 - 15.0

This view is from the Barnegat Lighthouse at Barnegat Lighthouse State Park. Built in 1859, the Barnegat Lighthouse is the central feature of the park, and from the observation deck offers a panoramic view of Barnegat Bay, Island Beach, and Long Beach Island. The lighthouse is open to visitors daily from Memorial Day through Labor Day, although it is currently closed for repairs. Along with the lighthouse, this small state park has an interpretive center and a 0.2-mile foot trail through one of the last remnants of maritime forest on Long Beach Islands. The park also offers opportunities for picnicking, bird watching, and fishing access to Barnegat Inlet. No swimming is allowed at the park. Barnegat Lighthouse State Park is part of the New Jersey Coastal Heritage Trail.

The selected KOP is from the observation deck of the Barnegat lighthouse. The elevated view to the south/southeast from this location offers a broad panorama of Long Beach Island extending from the foreground to the background. The island features abundant residential and commercial buildings interspersed with trees and is representative of the Recreation character area. Developed portions of the island are flanked by undeveloped marshland and the Atlantic Ocean to the east and the waters of Barnegat Bay to the west, much of which are outside of the field of view in the selected photo. That field of view is dominated by residential structures interspersed with trees in the foreground and middle ground. A water tower extends into the sky on the right side the view and serves as a focal point. The background includes the shoreline of the island and the waters of the Atlantic Ocean that extend uninterrupted to the horizon. Under the weather conditions featured in the photo, the ocean is a silver-gray color that blends with the overcast sky. The view has a developed character, but the lack of tall structures or other features that interrupt the sky give it an open expansive feel.

Rating panel members indicated that the existing elevated view from the Barnegat Lighthouse is partially retained. This view will be experienced for a relatively short period of time by lighthouse visitors, but their stationary presence on the observation deck allows for identification and focus on landscape/seascape features of interest. At this location, these primarily include developed features, but the broad expanse of open ocean also serves to draw the viewer's eye to the horizon.

Rating panel scores for the existing conditions photo ranged from 9.3 to 15.0 (average score = 13.1) indicating that the view is partially retained.

Proposed Conditions

Scenic Quality: Partially Retained
 Rating Panel Score Average: 11.3
 Rating Panel Score Range: 9.3 - 13.3
 Impact Magnitude: 1.8 (Minimal)

Viewshed analysis suggests that ground level views to the south/southeast toward the Project will be fully screened from most locations in Barnegat Lighthouse State Park. Exceptions would include the break wall/shoreline along the edge of the ocean, and from the elevated lighthouse observation deck.

With the proposed Project in place, the view to the south/southeast from the lighthouse now includes numerous turbines on the horizon at various distances from the viewer. Due to the elevation of this KOP, the towers and full rotors of most of the turbines are visible, with only their bases screened from view due to curvature of the earth. The turbines occupy approximately 29 degrees of the 191.8-degree ocean view available from this vantage point. The turbines on the southeast (left) and southwest (right) side of the view appear fainter and more widely spaced than those in the center of the view that are stacked up in more clearly defined lines. This stacking effect accentuates the turbines' visual presence and their contrast with the sky in the background. Turbine visibility and contrast are reduced under the overcast sky conditions featured in the selected photo, and would be more prominent under clearer conditions when strongly front-lit or back-lit. Their visibility and abundance, coupled with the fact that visitors to the lighthouse are there specifically for the view, make the turbines a prominent new focal point that will add to the developed shoreline character of the existing view. Rating panel members indicated that the Project WTGs would be "almost imperceptible" in the conditions represented, with VIA scores ranging from 9.33 to 13.3 (average score = 11.3). These scores indicate an average reduction of 1.8 points in comparison to the existing view, with individual rating panel members indicating reductions that ranged from 0.0 to 4.0. As a result, the view from Barnegat Lighthouse remains partially retained and minimal visual impacts are anticipated under the conditions represented in the photosimulation. Panel members noted that "There is very little noticeable change on the horizon due to the light color of the turbines on the white sky" and that "The turbines are distant enough that they do not overwhelm the view". However, it was also indicated that "Viewers will come to this location to have an extended view" and that "...visitors the lighthouse expecting an open and expansive view from the top will catch glimpses of turbines dotting the horizon". One panel member noted that, "During clear conditions the turbines are likely to be much more prominent in the view and further distract viewers from the existing scene."

Considering the scale contrast, compatibility, and spatial dominance factors that influenced the visual impact rating at this KOP, panel ratings indicated that the WTG's present a moderate scale contrast and are somewhat compatible with the existing seascape features and user activities. The rating panel also suggested that the WTGs are subordinate to co-dominant relative to other seascape features present in this view. Consistent with the anticipated scale contrast, compatibility, and spatial dominance impacts associated with the Project, panel members assigned Project visibility an average VTL of 2 from this KOP. However, panel members noted that during clearer conditions, this KOP's VTL score could reach a 4.

BLB02 Barnegat Lighthouse State Park

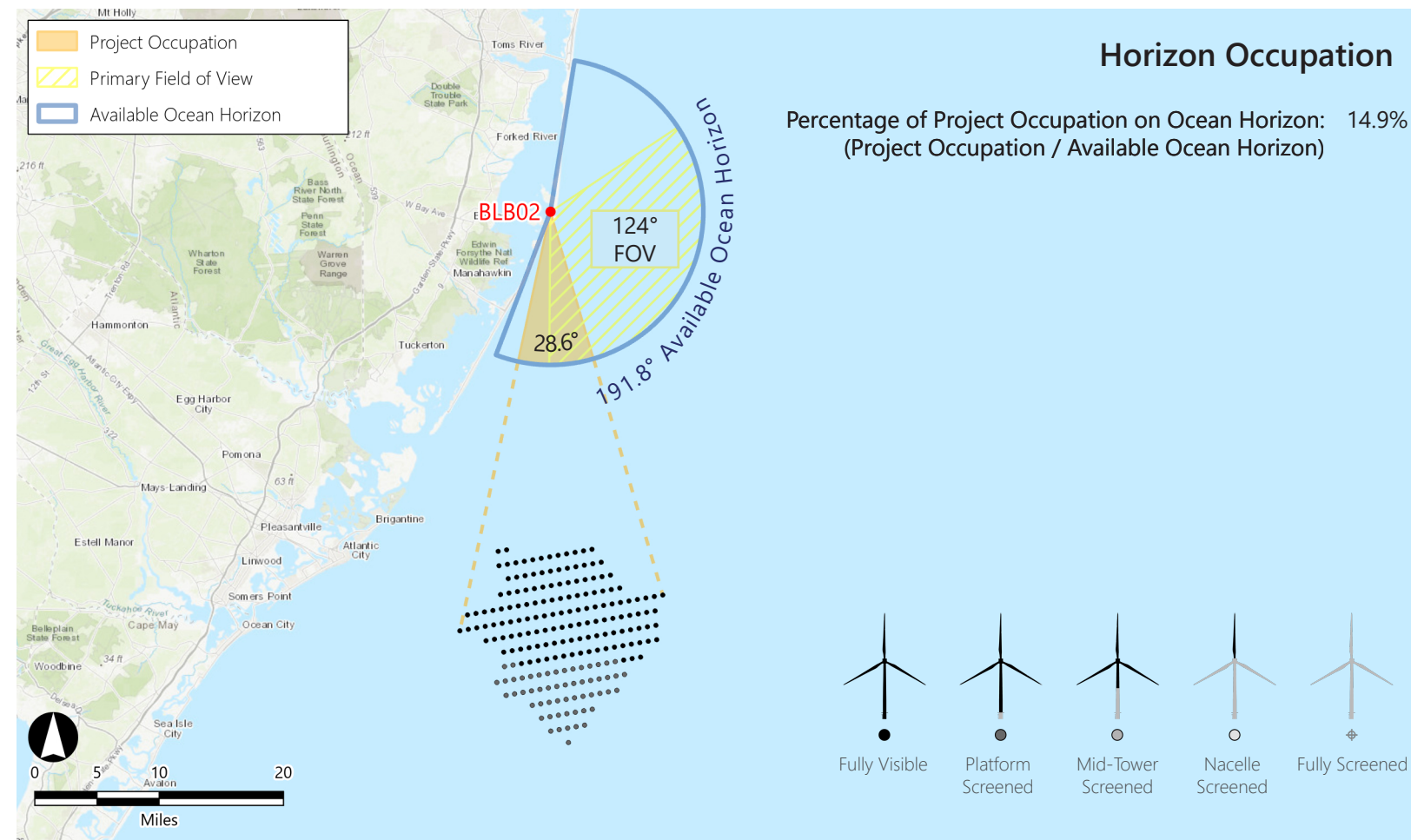
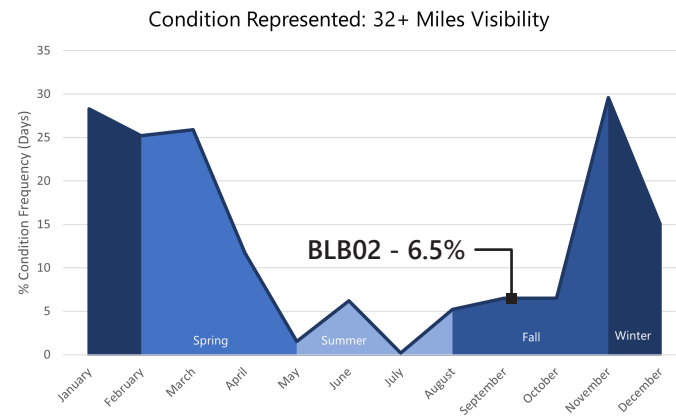
Barnegat Light Borough, Ocean County, New Jersey

KOP Information

Primary Field of View: East
 Distance to Closest WTG: 27.32 miles
 Camera Height: 155.70 ft
 User Groups: Residents, Tourists

Atmospheric Perspective

The effect the atmosphere has on the appearance of an object as viewed from a distance.



WTG Color Contrast

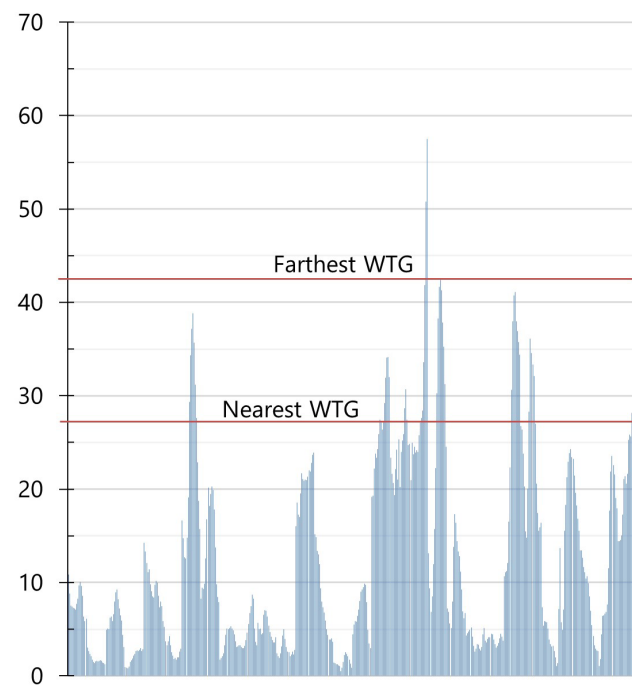
Color Contrast Rating: 1.19
 Turbine
 Background

Lighting Condition: Back lit
 Season: Fall
 Sky Condition: Cloudy
 Atmospheric Condition: > 10 Miles

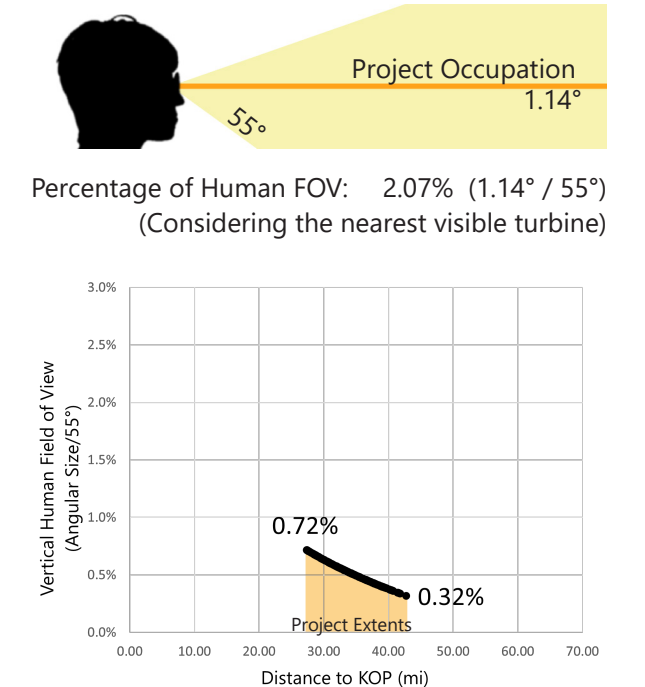
SIMILAR VIEWING PARAMETERS:

KOP EMC01 illustrates the project from 25.7 miles in the side lit condition. This provides an indication of how the turbines may appear from this KOP during midday conditions.

September, 2019 - Hourly Visibility Distance



Vertical Occupation



Existing Conditions



Photographic data provided by and credited to:
TJD&A Landscape Architects and Planners | Ocean Wind LLC | Orsted Wind Power North America LLC

Printed at 100% the resulting photosimulation size is 15 inches wide by 10 inches high. At this size and focal length, the photosimulation should be viewed from a distance of 21 inches.



This scale is designed to insure the photosimulation images are printed at the intended size.

Photosimulation



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