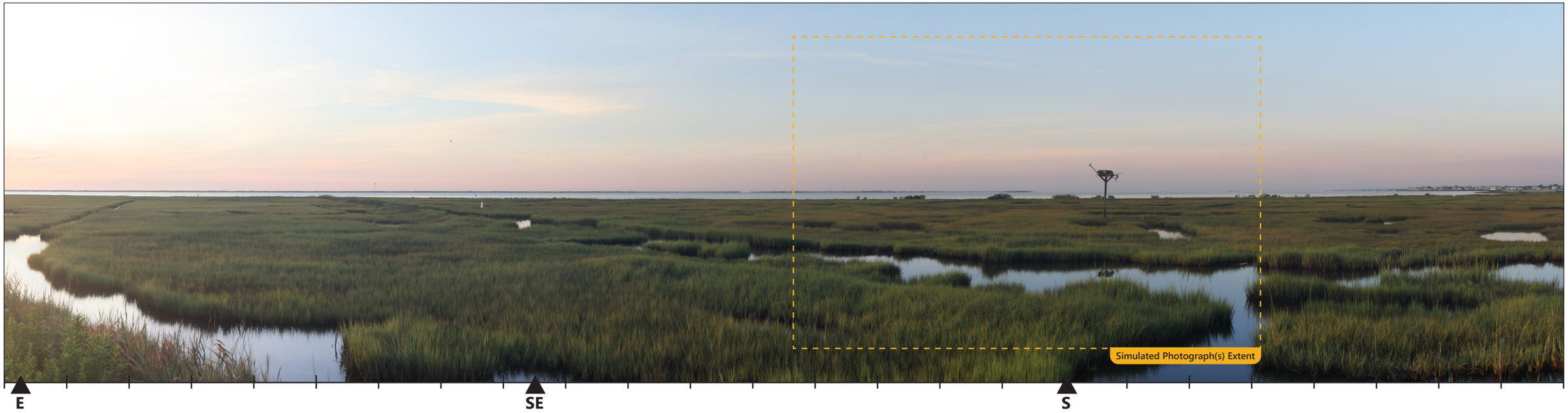
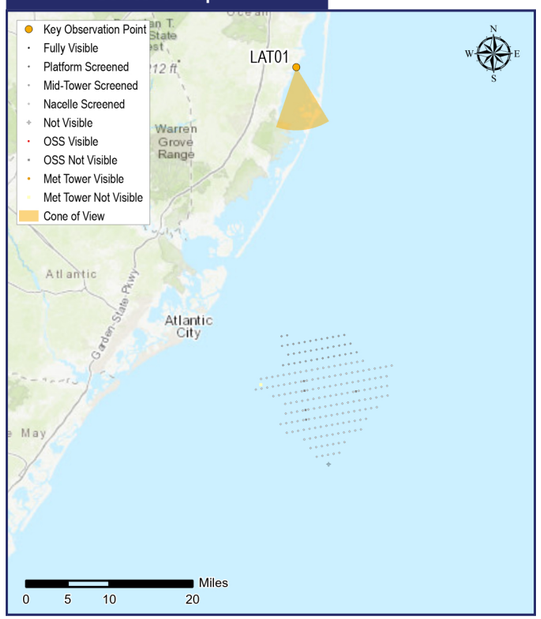
LAT01 Edwin B. Forsythe NWR at the Woodmansee Estate

Lacey Township, Ocean County, New Jersey

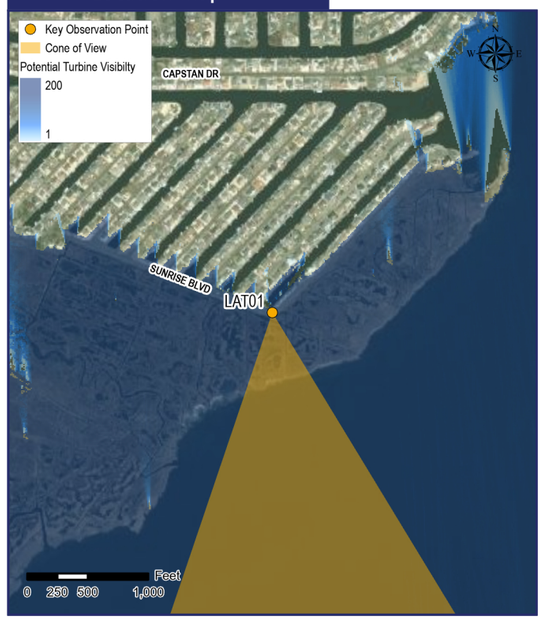


The image above is a +/- 124° panorama photograph from the Edwin B. Forsythe National Wildlife Refuge (NWR) at the Woodmansee Estate, panning clockwise from east (left) to southwest (right). The yellow rectangle within the photo represents the extent of the photosimulation photo(s).

Context Map



Location Map



Simulation Information

Coordinates:	39.83711°N, 74.15082°W
Character Area:	Dredged Lagoon, Salt Marsh (LCA)
User Group:	Residents
Direction of View:	South
Distance to Nearest Visible Turbine:	32.18 miles
Visually Sensitive Resource:	Edwin B. Forsythe National Wildlife Refuge

Environmental Information

Date Taken:	08/21/2020
Time:	6:24 AM
Temperature:	70°F
Humidity:	87%
Visibility:	10 miles
Wind Direction:	Calm
Wind Speed:	0 mph
Conditions Observed:	Fair

Photograph Information

Camera:	Canon EOS 5D Mark IV
Resolution:	30.4 Megapixels
Focal Length:	50mm
Camera Height:	9.78 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.

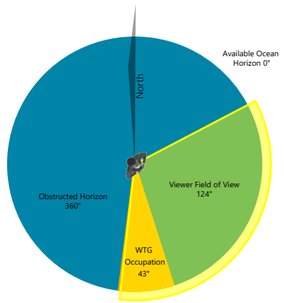
Night time photosimulations are digitally adjusted from daytime photographs.

Simulated Photograph(s)

Photograph ASOW6972

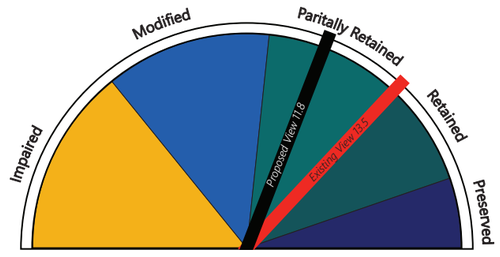
LAT01 Edwin B. Forsythe NWR at the Woodmansee Estate

Field of View



Visual Impact Rating

Impact Rating Summary



-1.8 Somewhat Significant

Visual Threshold Level (VTL)

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 (Sullivan et al., 2013).

Principles of Composition and Factors Affecting Visual Impact Summary

Design Elements	Description
Focal Point	Large bird's nest on vertical post in center of view.
Order	There is a layering of salt marsh in the foreground, horizontal lines in the middle ground consisting of open water and some distant land form, and the open sky above the horizon. There is textural complexity in the foreground.
Visual Clutter	Nesting platform is a strong vertical element in the view.
Movement	None present in view, but boats on the bay, waves, and wildlife could animate the scene at times.
Duration & Frequency of View	Long duration and high frequency views associated with nearby residential viewers.
Atmospheric Conditions	The rosy pink sunrise blurs the horizon line.
Lighting Direction	Side-Lit
Scenic or Recreational Value	Primarily boating, viewing, and birdwatching. The housing development just out of view likely brings other variety of scenic and recreational value.

Compatibility and Contrast Rating Average

Edwin B. Forsythe NWR at the Woodmansee Estate			
Resource	Compatibility	Scale	Spatial Dominance
Water Resources	2.3	1.8	1.8
Landform	2.0	1.8	1.8
Vegetation	1.5	1.3	1.3
Land Use	1.8	1.0	1.0
User Activity	2.0	1.5	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: Retained
Rating Panel Score Average: 13.5
Rating Panel Score Range: 12.3 - 14.3

This view is from the edge of a dredged channel (behind the viewer) overlooking the Edwin B. Forsythe National Wildlife Refuge (NWR) in Ocean City, New Jersey. The Woodmansee Estate is one of the oldest homesteads in the township and was formerly operated as a state game farm throughout much of the 20th century. The NWR includes more than 47,000 acres of southern New Jersey coastal habitats and is actively managed for migratory birds. More than 82 percent of Forsythe Refuge is wetlands, of which 78 percent is salt marsh, interspersed with shallow coves and bays. Facilities include a visitor information center, trails, boardwalks and overlooks, and popular recreational activities include birding, hunting, fishing, photography, and environmental education. The existing view to the south from this location features a salt marsh that extends from the foreground to the middle ground. The marsh is a mix of low herbaceous vegetation and pockets of open water. A man-made osprey nesting platform is the only vertical feature and a prominent focal point within the marsh. The far edge of the marsh includes some clumps of low shrubs, and is backed by Barnegat Bay which appears as an expanse of open water. The water extends to a distant spit of land on the horizon in the left half of the view. On the right, the water extends to the horizon where it meets the open sky, which in the early morning light is a mix of pink, purple, orange, and blue. Other than the nesting platform and some evidence of structures on the distant spit of land, the existing view has a peaceful, undisturbed character.

The view to the horizon from this location within the NWR is largely obstructed by distant land masses to the east, south and west, and by nearby residential development behind the viewer (from the northwest to the northeast). Only about 28 degrees of the 360-degree view (to the south, representing approximately 8% of the available view) offers an unobstructed view of the ocean that extends out to the horizon. Thus, although significant long-distance views toward the ocean are available from this location, only a small portion of these views are uninterrupted by intervening land masses.

Rating panel members indicated that although viewed from the edge of a densely developed residential area, the existing view is a relatively undisturbed salt marsh. It is a soft landscape with gentle undulation and open pockets of smooth reflective water. The blended colors of the sky present a pleasing contrast with various shades of green and orange in the highly textured marsh grass. The interplay of landform and open water are integral components in the foreground marsh as well as the bay and barrier islands in the middle ground and background. The flat landform in the background is occasionally interrupted by man-made forms that float on the hazy horizon where the ocean and sky blend together. Rating panel scores for the existing conditions photographs ranged from 12.3 to 14.3 (average score = 13.5). This score indicates that this view is retained.

Proposed Conditions

Scenic Quality: Partially Retained
Rating Panel Score Average: 11.8
Rating Panel Score Range: 10.3 - 13.0
Impact Magnitude: 1.8 (Somewhat Significant)

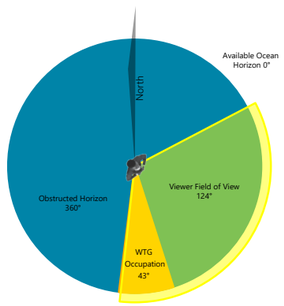
Viewshed analysis suggests that the Project has the potential to be visible from almost all of the marsh in this area, and the first row of homes along the marsh edge (behind the viewer). Potential views of the Project are screened from interior portions of the adjacent neighborhood, including the excavated channels between the streets.

With the proposed Project in place, an array of wind WTGs is visible above the open water on the distant horizon. The WTG array will occupy most of the currently unobstructed ocean horizon and draw viewer attention to the background. However, at this distance, the WTGs appear consistent in elevation with the distant land masses and carry the line of the land across the horizon. The WTGs generally blend well with hazy sky, although the WTGs more central to the view, and those that line-up/stack against one another, appear as larger more visible forms. Rating panel members had a generally consistent range of reactions to the impact resulting from the Project WTGs, with the VIA scores ranging from 10.3 to 13.0 (average score = 11.8). 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 1.0 to 3.7. The rating panel indicated that although visible, the WTGs do not dominate the view, and that the marsh and nesting platform in the foreground remain the focal points in the view. Although the WTGs interrupt the interplay of land and water, and the movement of the rotor blades could serve to attract viewer attention, this effect will be limited by the distance from the WTGs and foreground activity. With the Project in place, the scenic quality of this view becomes partially retained suggesting somewhat significant impacts could result from the Projects during clear viewing conditions.

The rating panel scores indicated that the Project would present co-dominance, moderate scale contrast, and some degree of compatibility with water resources, landform, and user activity. The Project would also be somewhat compatible with the existing vegetation in the view. The Project would be subordinate and would present minimal scale contrast with vegetation and land use. Consistent with these findings, panel members assigned the Project visibility an average VTL of 4 from this KOP.

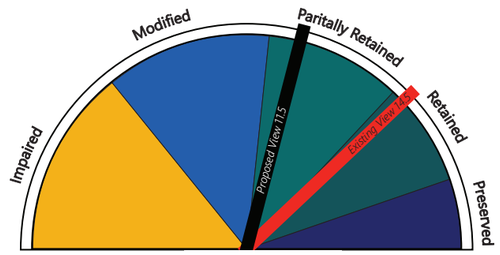
LAT01 Edwin B. Forsythe NWR at the Woodmansee Estate (Night)

Field of View



Visual Impact Rating

Impact Rating Summary



-3.8. Significant

Visual Threshold Level (VTL)

5

An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements (Sullivan et al., 2013).

Principles of Composition and Factors Affecting Visual Impact Summary

Design Elements	Description
Focal Point	A single red dot of light left of center in the view.
Order	There is a layering of salt marsh in the foreground, horizontal lines in the middle ground consisting of open water and some distant land form, and the open sky above the horizon. There is textural complexity in the foreground with the salt marsh plants and water.
Visual Clutter	Although difficult to see at this distance lights from the distant barrier island draw the viewer's attention.
Movement	None present (however, flashing buoys and cars on the bay and barrier island are likely present).
Duration & Frequency of View	Long duration and high frequency views associated with nearby residential viewers.
Atmospheric Conditions	Conditions are generally clear. Moisture in the air could impact visibility.
Lighting Direction	Nighttime
Scenic or Recreational Value	This is part of the Forsythe NWR, but in a residential area. Local residents will experience this view on a regular basis.

Compatibility and Contrast Rating Average

Edwin B. Forsythe NWR at the Woodmansee Estate - Night			
Resource	Compatibility	Scale	Spatial Dominance
Water Resources	2.3	2.0	2.3
Landform	1.5	1.8	2.3
Vegetation	1.3	1.5	1.5
Land Use	2.3	2.0	2.5
User Activity	2.1	2.1	2.6
	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: 11.4
Rating Panel Score Range: 10.2 - 12.7

This KOP is located on the edge of a dredged channel (behind the viewer) overlooking the Edwin B. Forsythe National Wildlife Refuge (NWR) in Ocean City, New Jersey. The existing nighttime view over an undeveloped salt marsh has few discernible features other than a ribbon of water in the foreground that is reflecting what little ambient light is present (perhaps from adjacent development behind the viewer). One bright red light is visible on the left side of the view, which draws the viewer's eye to more subtle lighting from development on the offshore barrier islands. The starless sky overhead is dark black with a few thin clouds barely visible. The ocean is also dark and does not draw viewer attention, which under these conditions is more likely to focus on the sounds and smells of the adjacent marsh.

Rating panel scores for the existing conditions photographs ranged from 10.2 to 12.7 (average score = 11.4). This view is partially retained based on the rating panel scores.

Proposed Conditions

Scenic Quality: Modified
Rating Panel Score Average: 7.7
Rating Panel Score Range: 5.3 - 9.8
Impact Magnitude: 3.8 (Significant)

With the proposed Project in place, the red lights of the WTG's are clearly visible. Given their distance from the viewer, the individual lights appear small, except when the WTGs are stacked on top of each other, which creates some more intense "hot spots". The grid layout of the WTGs and distance at which the project is viewed from this location (over 32 miles) result in perspective lines of light that appear as regular long red streaks that draw viewer attention to the center of the view. One rating panel member characterized this effect is "captivating", while another indicated that it created a sense of movement in the WTG array. A third panel member likened the appearance of the lights to airport runway right lighting that extended deep into the view. Because of the dark setting, even at significant distance, the WTG lights become a dominant focal point in this view that draw viewer attention away from the foreground and the other existing lights in the view.

Rating panel members had variable reactions to the nighttime impact resulting from the Project WTGs, with the VIA scores ranging from 5.3 to 9.8 (average score = 7.7). These scores indicate an average reduction of 3.8 points in comparison to the existing view, with individual rating panel members indicating reductions that ranged from 0.3 to 6.0. With the Project in place, the view becomes impaired to and the visual impact could be significant under clear nighttime conditions when the AWOLs are active.

Panel members indicated that the AWOL's dominate the view when considering land use and user activity and co-dominance with water resources and landform. The panel also indicated that the AWOLs would result in moderate scale contrast, but would be somewhat compatible with all uses and landscape features. The average rating panel scores indicated a VTL of 5, which is consistent with the scale and spatial dominance ratings for land use and users.

LAT01 Edwin B. Forsythe NWR at the Woodmansee Estate

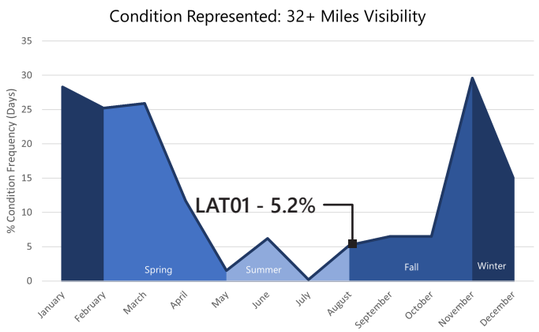
Lacey Township, Ocean County, New Jersey

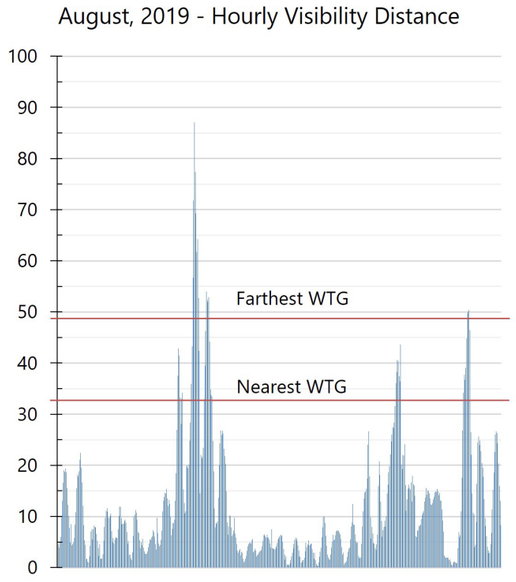
KOP Information

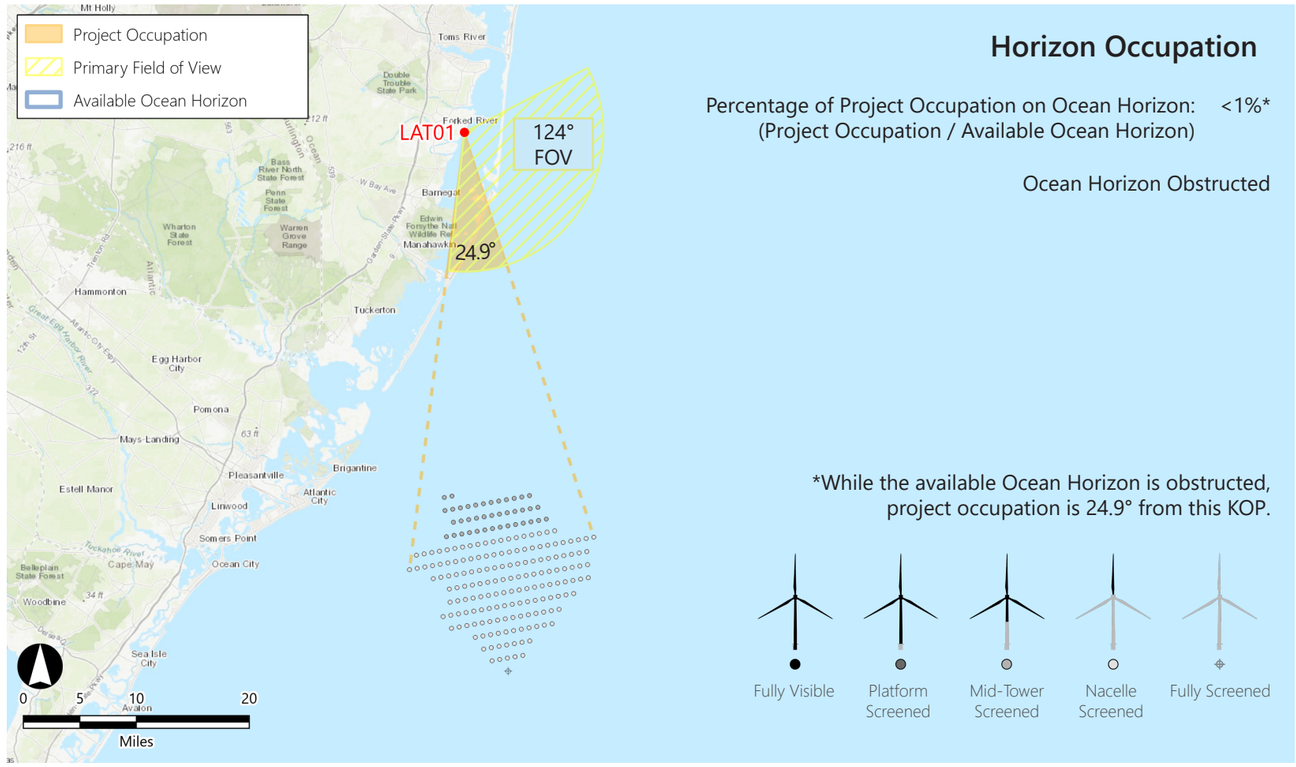
Primary Field of View:	East
Distance to Closest WTG:	32.18 miles
Camera Height:	9.78 ft
User Groups:	Residents

Atmospheric Perspective

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







Horizon Occupation

Percentage of Project Occupation on Ocean Horizon: <1%*
(Project Occupation / Available Ocean Horizon)

Ocean Horizon Obstructed

*While the available Ocean Horizon is obstructed, project occupation is 24.9° from this KOP.

WTG Color Contrast

Color Contrast Rating:

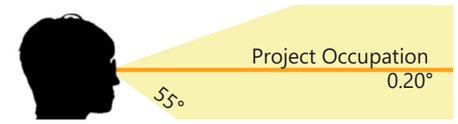
Turbine / Background: 1.37

Lighting Condition:	Back lit
Season:	Summer
Sky Condition:	Fair
Atmospheric Condition:	>10 Miles

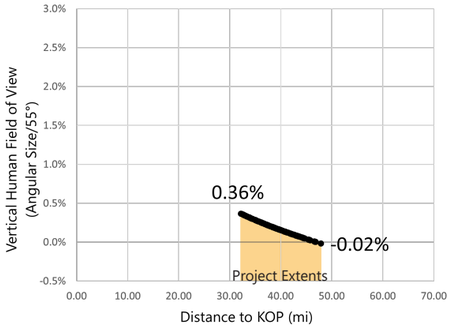
SIMILAR VIEWING PARAMETERS:

KOP BT01 Illustrates the project from 30.25 miles in the side lit condition. This provides an indication of how the turbines may appear from this KOP during morning conditions.

Vertical Occupation



Percentage of Human FOV: 0.36% (0.20° / 55°)
(Considering the nearest visible turbine)



Existing Conditions

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

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.

Atlantic Shores Offshore Wind Project

Outer Continental Shelf - New Jersey

Key Observation Point:LAT01 - Edwin B. Forsythe National Wildlife Refuge at the Woodmansee Estate

Attachment E: Photosimulations: Page 10 of 159

Photosimulation

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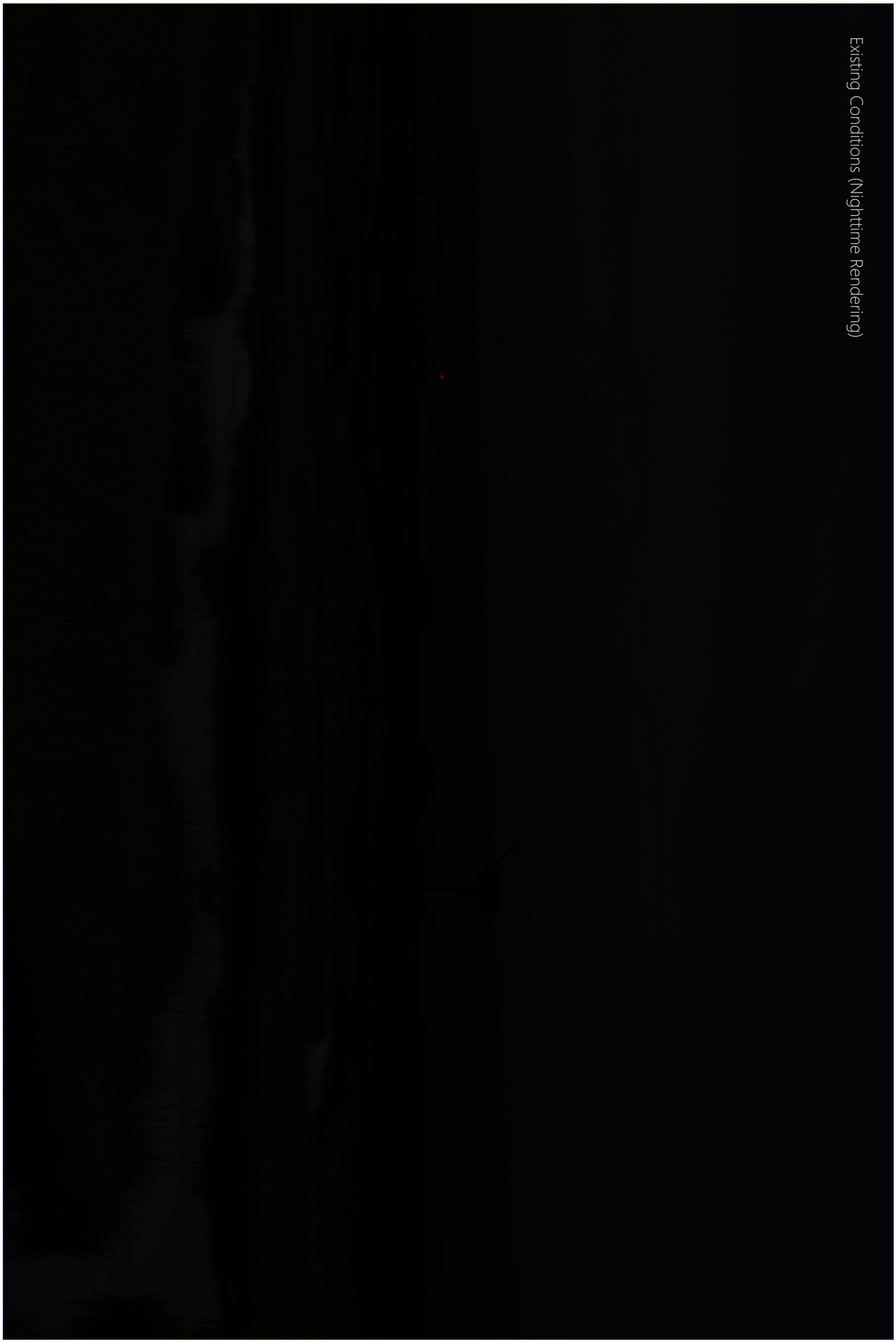
Atlantic Shores Offshore Wind Project

Outer Continental Shelf - New Jersey

Key Observation Point:LAT01 - Edwin B. Forsythe National Wildlife Refuge at the Woodmansee Estate

Attachment E: Photosimulations: Page 11 of 159



Atlantic Shores Offshore Wind Project

Outer Continental Shelf - New Jersey

Key Observation Point: LAT01 - Edwin B. Forsythe National Wildlife Refuge at the Woodmansee Estate

Attachment E: Photosimulations: Page 12 of 159

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.

0 1 in 2 in

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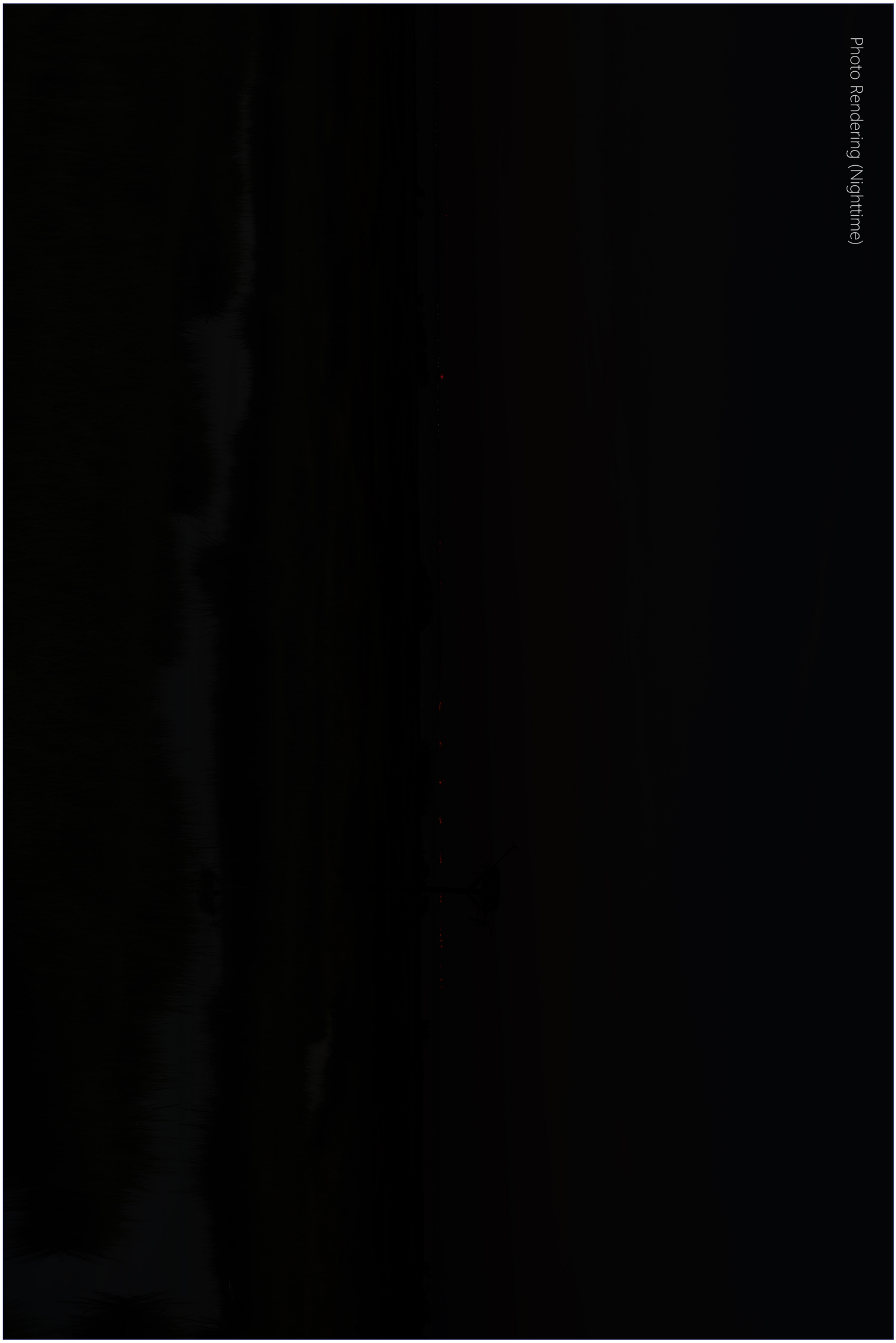

Atlantic Shores Offshore Wind Project

Outer Continental Shelf - New Jersey

Key Observation Point: LAT01 - Edwin B. Forsythe National Wildlife Refuge at the Woodmansee Estate

Attachment E: Photosimulations: Page 13 of 159

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0 1 in 2 in

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