



Attachment 3

KOP Visualizations

Kitty Hawk North Wind
Visual Impact Assessment

30 September 2022

tjd&a

V01. False Cape State Park Virginia Beach, VA

LANDSCAPE INFORMATION

Viewpoint	V01
Visualization date(s) and time(s)	June 25, 2021 at 10:14 AM
Context Images Date(s)	June 25, 2021
Character Area	Natural Beachfront
Scenic Resources	The viewpoint is within the northern portion of False Cape State Park. The viewpoint is located on the beach approximately 1.1 km (0.7 mi) away from the Park Visitor Center, in an area that includes both wooded and beachfront camp

SITE MAP



CONTEXT IMAGES



1. Park Visitor Center, 1.1 km (0.7 mi) west of the ocean, features interpretive displays, supplies, and toilet facilities.



2. The entrance to the State Park from Back Bay NWR.



3. Barbour Hill Trail between the Visitor Center and the beach, providing access for hiking and biking.



4. Camping on the beach at Barbour Hill is a popular activity, highlighted by sunrises over the Atlantic.



5. Campers can either pitch their tents in the live oak woods, or on the beach from Barbour Hill to Back Bay NWR.



6. Tracks created by patrolling staff. Access to False Cape SP is limited to walking, biking, or taking the park tram.

PANORAMIC VISUALIZATION



LOCATION

Viewpoint is located on the beach at the end of the Barbour Hill Trail in False Cape State Park.

WTG DIMENSIONS

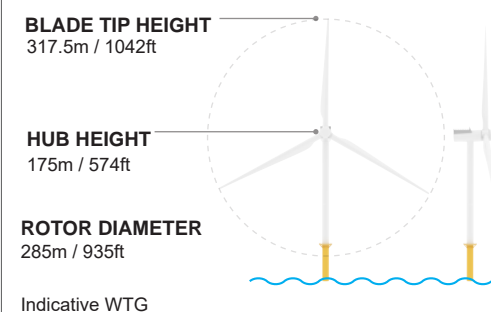


IMAGE DATA

LOCATION

Date	June 25, 2021
Time	10:14 AM
Latitude	36.624693°
Longitude	-75.888418°
Direction of View	Southeast
Character Area	Natural Beachfront

PHOTO

Original Photo ID	DSC 0255
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	3.1 m (10.2 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	76°
Humidity	71%
Visibility	10 mi
Tide Level	Mid (outgoing)
Weather Conditions	Sunny/Clear

PROJECT VIEW

Distance to Project	53.47 k (33.22 mi)
Project Horizontal Field of View (HFOV)	13°

WTG ORIENTATION

WTGs in visualization are oriented to face prevailing wind from the southwest. While this is not representative of the most conservative scenario, the viewing distance over 53 km (33 mi) will not result in a discernable visual change between various WTG orientations.

VIEWPOINT 01

False Cape State Park

Virginia Beach, VA

**KITTY HAWK
NORTH WIND**



V01. False Cape State Park
Virginia Beach, VA

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V01

**False Cape
State Park**

**Virginia Beach,
VA**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

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30 September 2022
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V01. False Cape State Park
Virginia Beach, VA

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V01

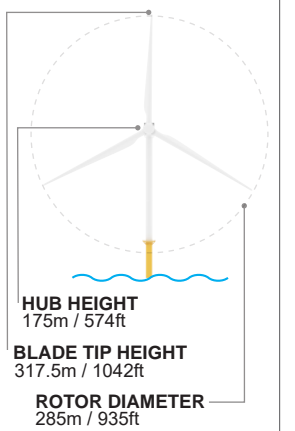
**False Cape
State Park**

**Virginia Beach,
VA**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
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and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



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V02. Currituck Beach Lighthouse Corolla, NC

LANDSCAPE INFORMATION

Viewpoint	V02
Visualization date(s) and time(s)	June 21, 2021 at 4:33 PM
Context Images Date(s)	June 21, 2021
Character Area	Conservation Area
Scenic Resources	The viewpoint, located atop the historic 162-foot Currituck Beach Lighthouse, borders the Whalehead in Historic Corolla, and is part of a series of parks and preserves that make up the 39-acre Historic Corolla Park.

SITE MAP



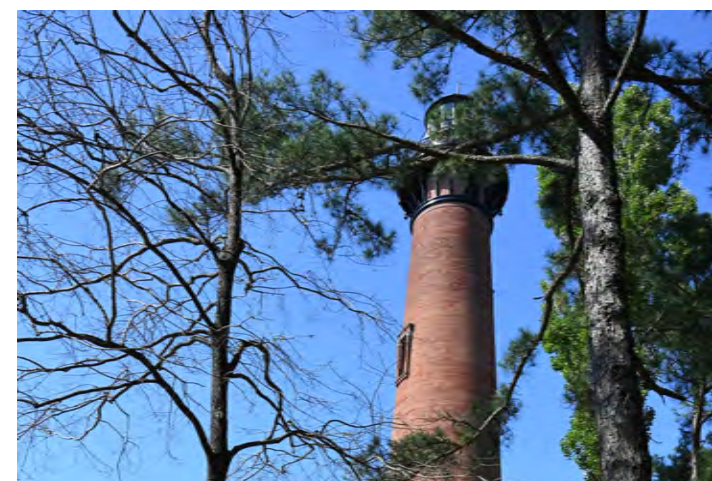
CONTEXT IMAGES



1. The original Keeper's Quarters at the base of the lighthouse is now the Currituck Beach Lighthouse Museum.



2. The lighthouse as seen from the Whalehead in Historic Corolla.



3. The privately-owned Lighthouse is open seasonally 9-5 and until 8PM Memorial Day - Labor Day.



4. View to the SE toward the ocean illustrates density patterns in Corolla, characteristic of the northern end of the Outer Banks.



5. Views toward Currituck Sound include Historic Corolla and Whalehead, a 1920's era mansion; now a museum.

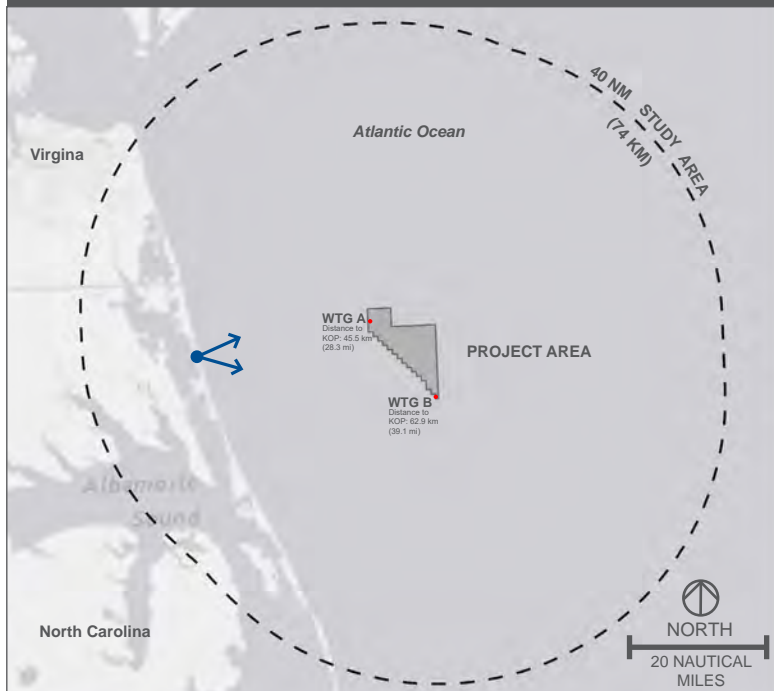


6. 220 steps rewards visitors with a 360° view from the observation deck.

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the lighthouse catwalk that provides 360-degree views of the surrounding area.

WTG DIMENSIONS

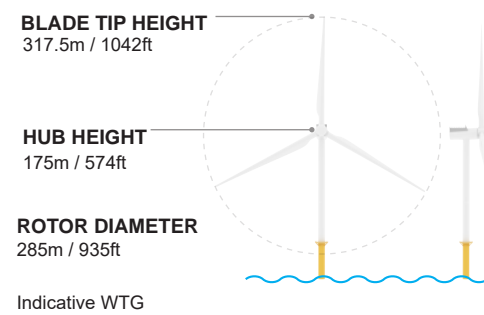


IMAGE DATA

LOCATION

Date	June 21, 2021
Time	4:33 PM
Latitude	36.376667°
Longitude	-75.830618°
Direction of View	East
Character Area	Conservation Area

PHOTO

Original Photo ID	DSC 8230
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	45.1 m (148 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	92°
Humidity	55%
Visibility	10 mi
Tide Level	High
Weather Conditions	Sunny/Clear

PROJECT VIEW

Distance to Project	45.61 k (28.34 mi)
Project Horizontal Field of View (HFOV)	23.6°

WTG ORIENTATION

Two visualizations are provided for this KOP. The first shows the WTGs oriented to the southwest toward the prevailing wind. The second shows the WTGs oriented to the west (the most conservative scenario).

VIEWPOINT 02

**Currituck Beach
Lighthouse
Corolla, NC**

**KITTY HAWK
NORTH WIND**



V02. Currituck Beach Lighthouse
Corolla, NC

EXISTING CONDITIONS



NORMAL VIEW
EXISTING IMAGE

V02

NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

KITTY HAWK
NORTH WIND

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V02. Currituck Beach Lighthouse Corolla, NC

VISUALIZATION
SOUTHWEST ORIENTATION



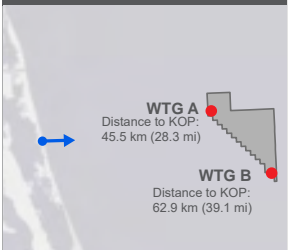
**NORMAL VIEW
VISUALIZATION**

V02

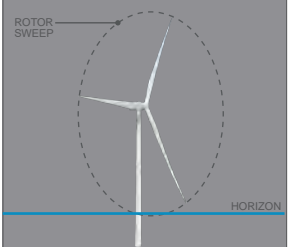
NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5 times
the image width or print on
11x17 (tabloid) and hold
page 21 inches from eye.

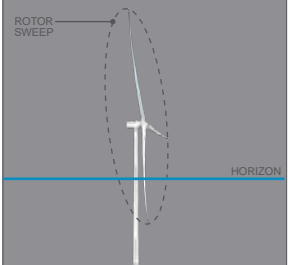
LOCATION MAP



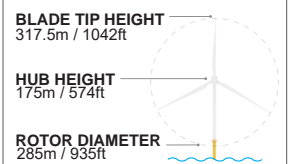
WTG A



WTG B



WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



V02. Currituck Beach Lighthouse Corolla, NC

**VISUALIZATION
WEST ORIENTATION**



**NORMAL VIEW
VISUALIZATION**

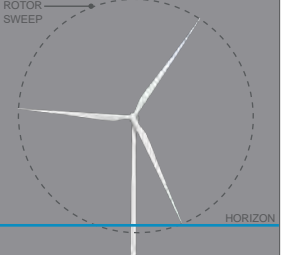
V02

NOTE
To replicate actual view:
View on screen from a
distance equal to 1.5 times
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11x17 (tabloid) and hold
page 21 inches from eye.

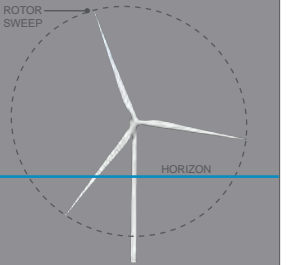
LOCATION MAP



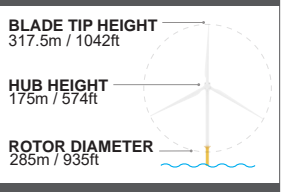
WTG A



WTG B



WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**

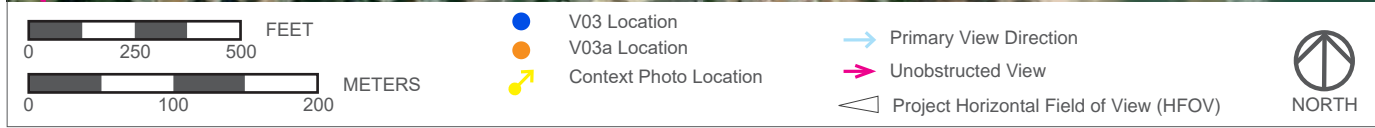


V03. Corolla Public Beach

Corolla, NC

LANDSCAPE INFORMATION	
Viewpoint	V03, V03a
Visualization date(s) and time(s)	June 21, 2021 at 5:18 PM, June 23, 2021 at 8:07 PM
Context Images Date(s)	June 21, 2021
Character Area	Developed Beachfront
Scenic Resources	The viewpoint is located on Corolla Public Beach near the Corolla Village Road Access Point. The Currituck Beach Lighthouse is located approximately 0.6 km (0.4 mi) away.

SITE MAP



CONTEXT IMAGES



1. Parking and public restrooms off Corolla Village Road, with a paved walkway leading to the beach.



2. Adjacent homes south of Corolla Village Road are part of Corolla Light, a 240-acre resort village.



3. Many of the ocean beaches in the Outer Banks are handicapped accessible.



4. Looking north from the public access point at the end of Corolla Village Road.



5. Looking south from the public access point. Stairway structures are part of the Corolla Light resort.



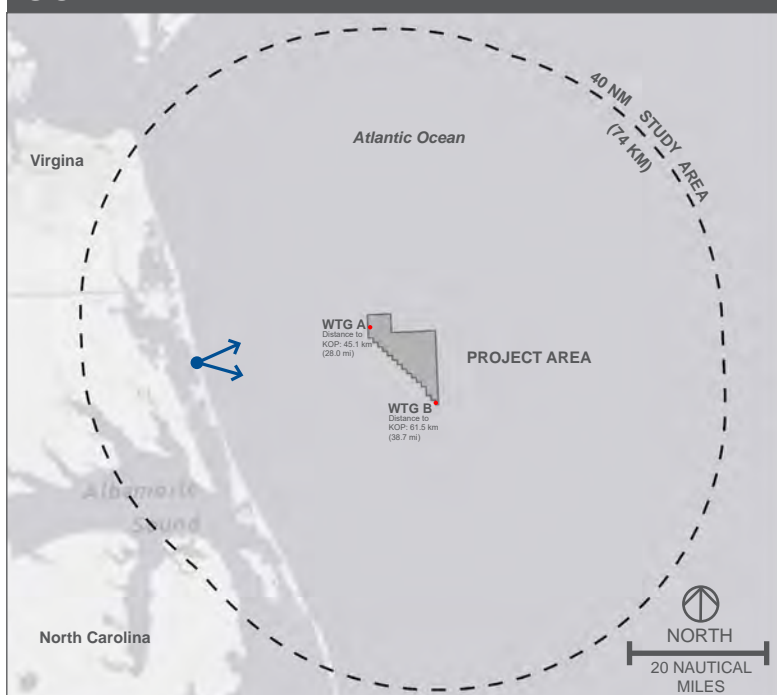
6. Accessible ramp adjacent to private homes. Single loaded parking is characteristic of many public beach access points.

30 September 2022

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on Corolla Public Beach near the Corolla Village Road beach access point.

WTG DIMENSIONS

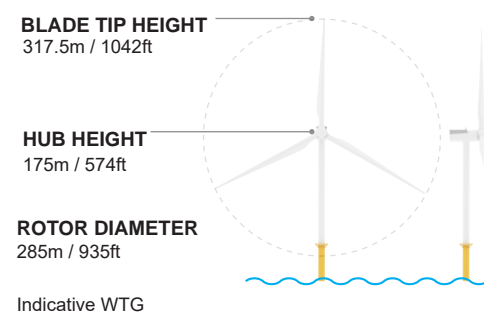


IMAGE DATA

LOCATION

Date	June 21, 2021
Time	5:18 PM
Latitude	36.375498°
Longitude	-75.823787°
Direction of View	East
Character Area	Dev. Beachfront

ENVIRONMENTAL

Temperature (°F)	92°
Humidity	55%
Visibility	10 mi
Tide Level	High
Weather Conditions	Sunny/Clear

PHOTO

Original Photo ID	DSC 8387
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	3.7 m (12.3 ft)

PROJECT VIEW

Distance to Project	45.03 km (27.98 mi)
Project Horizontal Field of View (HFOV)	23.9°

WTG ORIENTATION

Two visualizations are provided for this KOP. The first shows the WTGs oriented to the southwest toward the prevailing wind. The second shows the WTGs oriented to the west (the most conservative scenario).

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

VIEWPOINT 03

**Corolla Public Beach
(Day)
Corolla, NC**

**KITTY HAWK
NORTH WIND**



V03. Corolla Public Beach (Day)
Corolla, NC

EXISTING CONDITIONS



NORMAL VIEW
EXISTING IMAGE

V03

NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

KITTY HAWK
NORTH WIND

tjd&a

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V03. Corolla Public Beach (Day)
Corolla, NC

VISUALIZATION
SOUTHWEST ORIENTATION



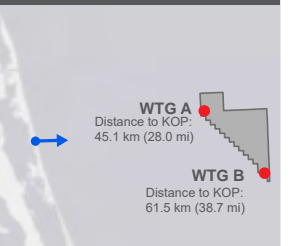
**NORMAL VIEW
VISUALIZATION**

V03

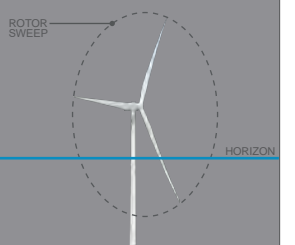
NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5 times
the image width or print on
11x17 (tabloid) and hold
page 21 inches from eye.

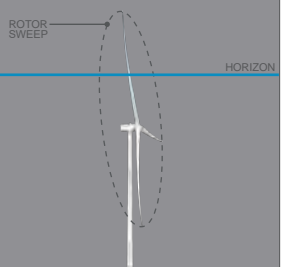
LOCATION MAP



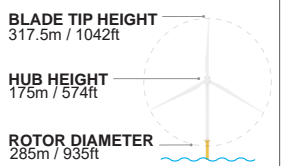
WTG A



WTG B



WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



V03. Corolla Public Beach (Day)
Corolla, NC

VISUALIZATION
WEST ORIENTATION



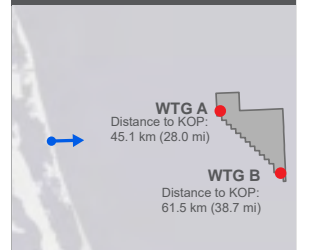
**NORMAL VIEW
VISUALIZATION**

V03

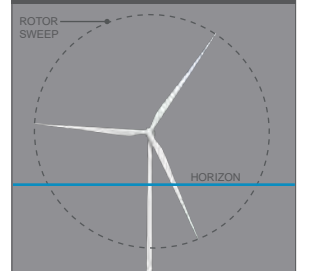
NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5 times
the image width or print on
11x17 (tabloid) and hold
page 21 inches from eye.

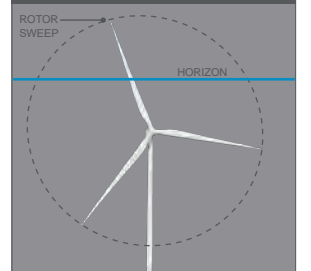
LOCATION MAP



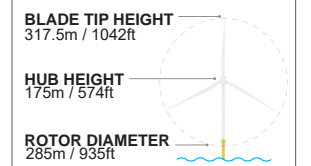
WTG A



WTG B



WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



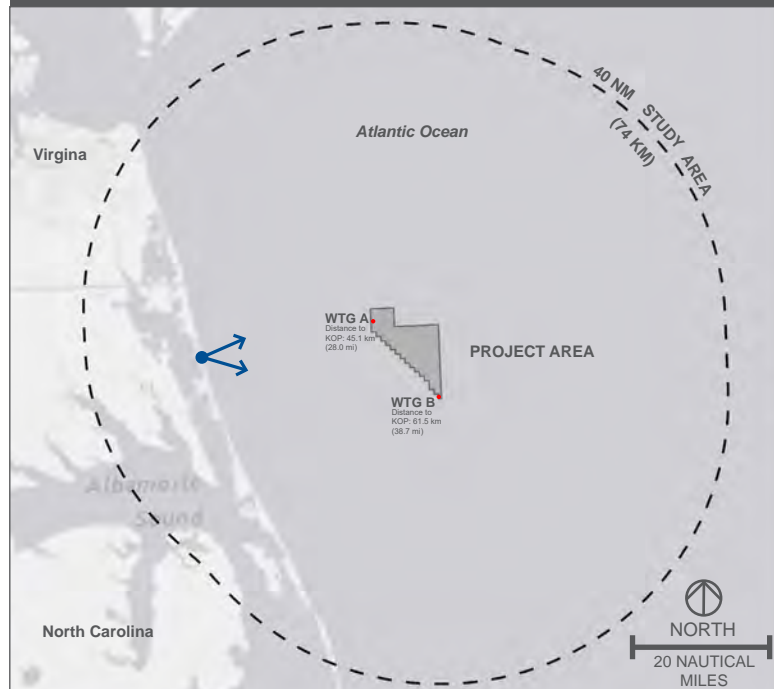
V03a. Corolla Public Beach (Dusk)

Corolla, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on Corolla Public Beach near the Corolla Village Road beach access point during dusk conditions.

WTG DIMENSIONS

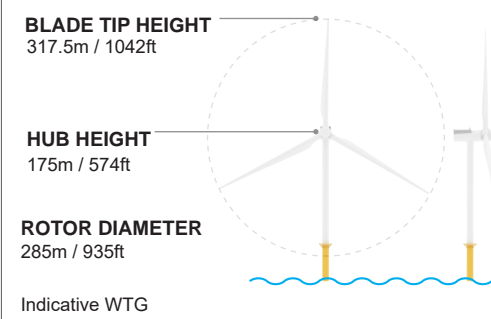


IMAGE DATA

LOCATION		ENVIRONMENTAL	
Date	June 23, 2021	Temperature (°F)	70°
Time	8:07 PM	Humidity	53%
Latitude	36.376728°	Visibility	10 mi
Longitude	-75.824193°	Tide Level	High
Direction of View	East	Weather Conditions	Clear
Character Area	Dev. Beachfront	PROJECT VIEW	
		Distance to Project	45.03 km (27.98 mi)
		Project Horizontal Field of View (HFOV)	23.8°
PHOTO		WTG ORIENTATION	
Original Photo ID	DSC 9731	Two visualizations are provided for this KOP. The first shows the WTGs oriented to the southwest toward the prevailing wind. The second shows the WTGs oriented to the west (the most conservative scenario).	
Camera	NIKON D750		
Resolution	300 dpi		
Focal Length	50mm		
Viewer Eye Elevation	5 m (16 ft)		
PROJECT INFRASTRUCTURE			
Number of WTGs	69		
Number of Electrical Service Platforms	1		

VIEWPOINT 03a

Corolla Public Beach (Dusk)
Corolla, NC

KITTY HAWK NORTH WIND

tjd&a

V03a. Corolla Public Beach (Dusk)
Corolla, NC

EXISTING CONDITIONS



NORMAL VIEW
EXISTING IMAGE

V03a

NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

KITTY HAWK
NORTH WIND

tjd&a

V03a. Corolla Public Beach (Dusk)
Corolla, NC

VISUALIZATION
SOUTHWEST ORIENTATION



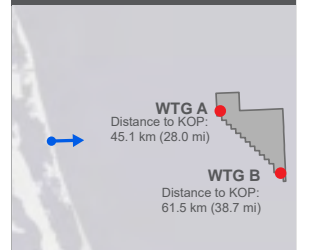
**NORMAL VIEW
VISUALIZATION**

V03a

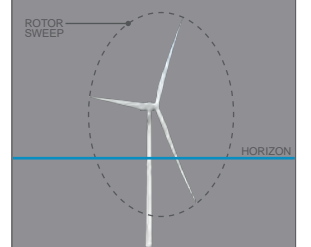
NOTE

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distance equal to 1.5 times
the image width or print on
11x17 (tabloid) and hold
page 21 inches from eye.

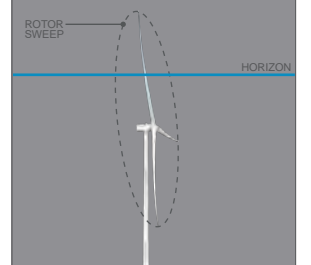
LOCATION MAP



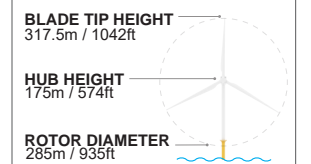
WTG A



WTG B



WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



V03a. Corolla Public Beach (Dusk)

Corolla, NC

VISUALIZATION
WEST ORIENTATION



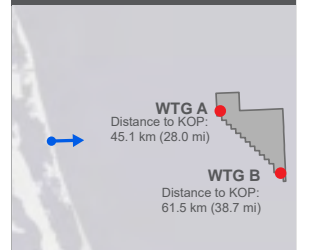
NORMAL VIEW VISUALIZATION

V03a

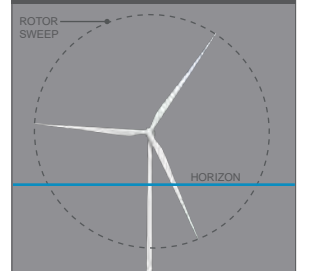
NOTE

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page 21 inches from eye.

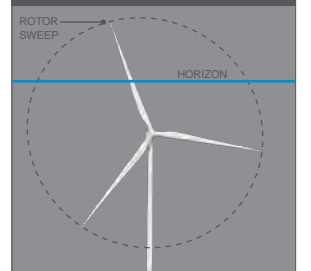
LOCATION MAP



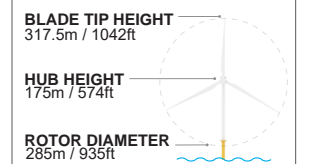
WTG A



WTG B



WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**

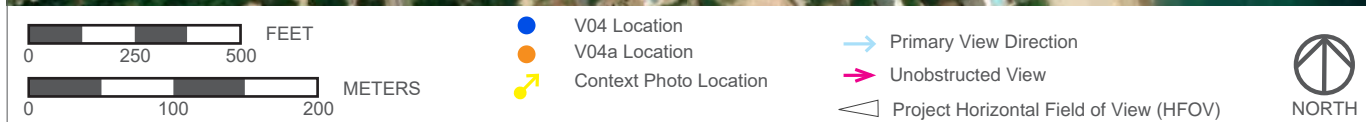
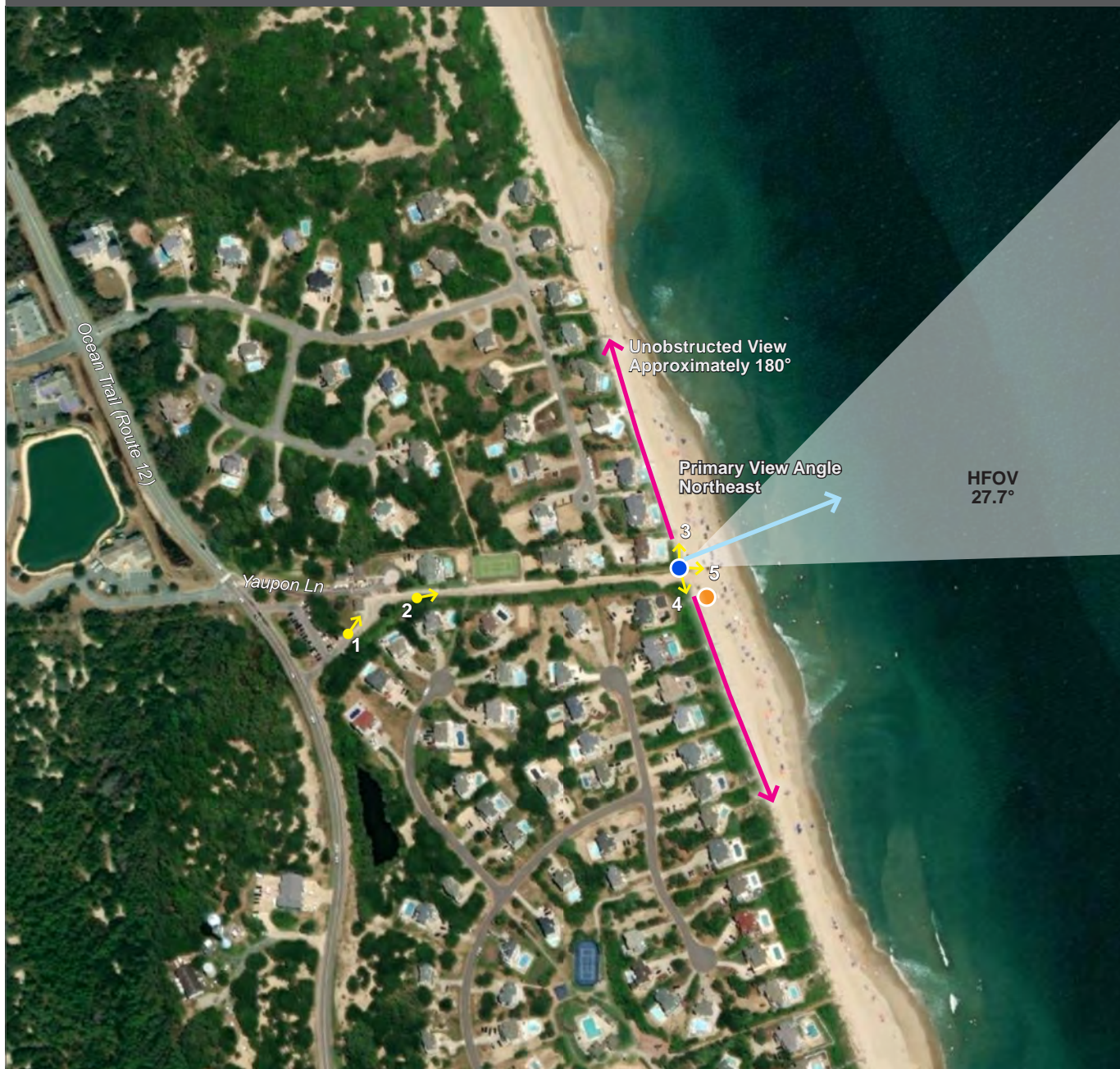
tjd&a

V04. Southern Beach Access Corolla, NC

LANDSCAPE INFORMATION

Viewpoint	V04, V04a
Visualization date(s) and time(s)	June 21, 2021 at 3:50 PM, June 23, 2021 at 9:06 PM
Context Images Date(s)	June 21, 2021
Character Area	Developed Beachfront
Scenic Resources	The viewpoint is located at Corolla Beach on the beachfront observation deck at the end of the access way on Yaupon Lane.

SITE MAP



CONTEXT IMAGES



1. Southern Beach Access offers a variety of amenities including restroom, snack bar, shuttle stop, and lifeguards.



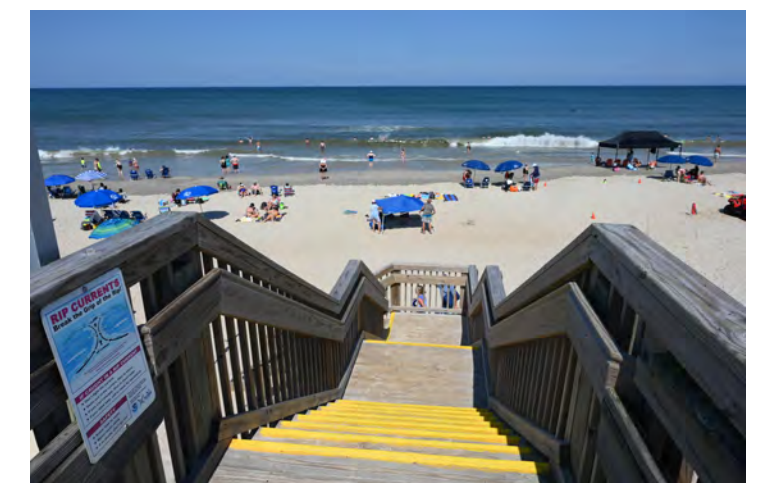
2. The 850' walkway from the 30-car parking area to the beach is flanked by private homes and tennis courts.



3. Large single-family and multi-unit homes built over the dunes north of the access route are common at this end of the Outer Banks.



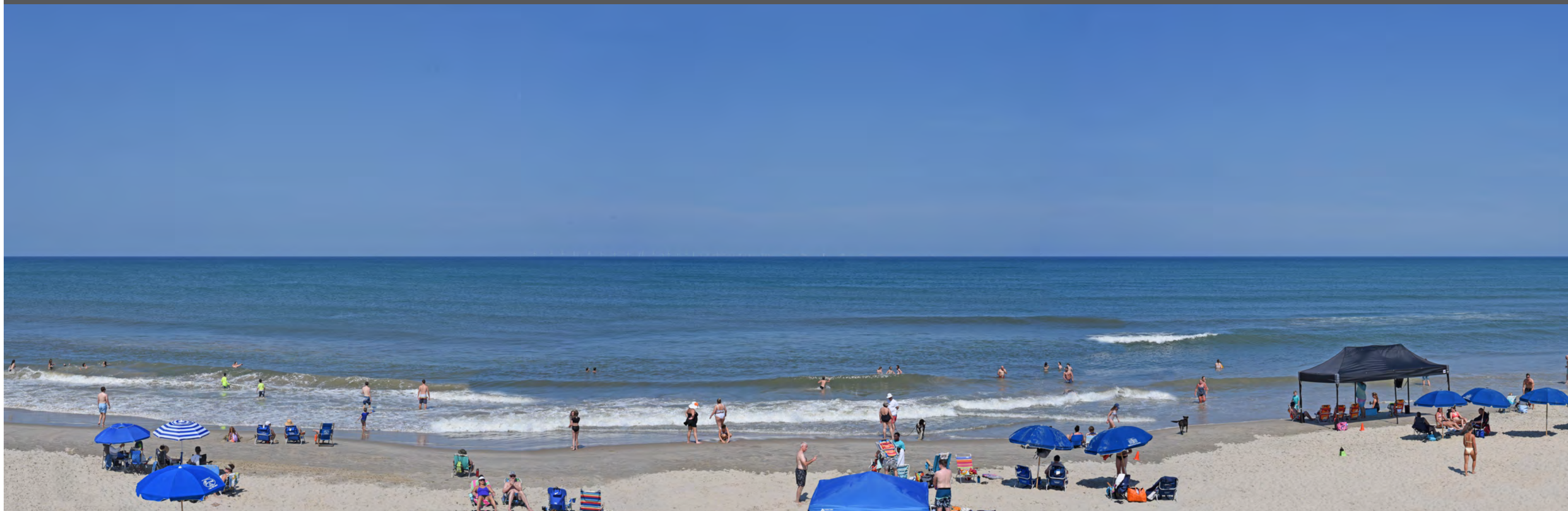
4. Most waterfront homes are set back from the dunes, but are elevated to capture views of the ocean.



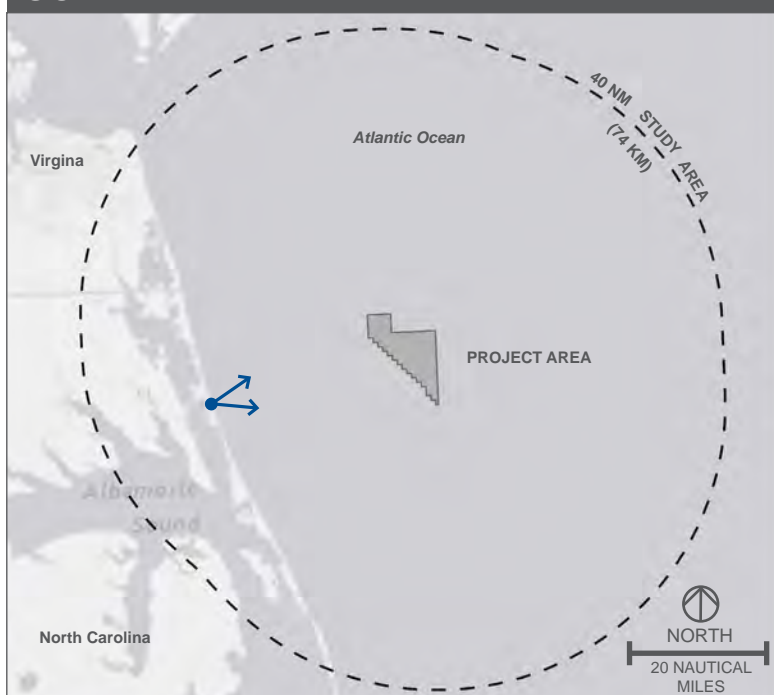
5. Southern (Yaupon Lane) is the southernmost of 15 beach access points in Corolla, and one of six with lifeguards.

V04. Southern Beach Access (Day) Corolla, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the elevated observation deck connected to the Yaupon Lane beach access ramp and stairs.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

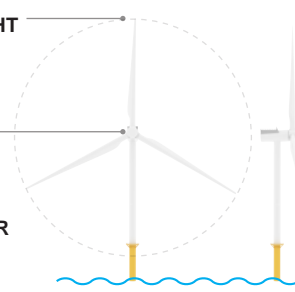


IMAGE DATA

LOCATION

Date	June 21, 2021
Time	3:50 PM
Latitude	36.278771°
Longitude	-75.792582°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 8136
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	8.4 m (27.5 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	91°
Humidity	53%
Visibility	10 mi
Tide Level	High (incoming)
Weather Conditions	Sunny/Clear

PROJECT VIEW

Distance to Project	45.16 k (28.06 mi)
Project Horizontal Field of View (HFOV)	27.7°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 04

**Southern
Beach Access
Corolla, NC**

**KITTY HAWK
NORTH WIND**

tjd&a

V04. Southern Beach Access (Day)
Corolla, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V04

**Southern
Beach Access**

Corolla, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

30 September 2022
Page 21 of 69

V04. Southern Beach Access (Day) Corolla, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V04

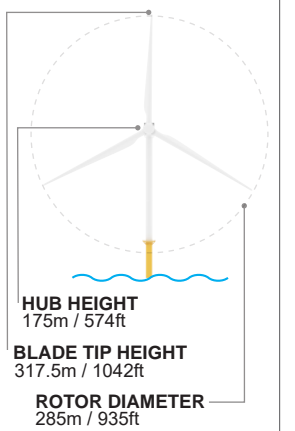
**Southern
Beach Access**

Corolla, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS

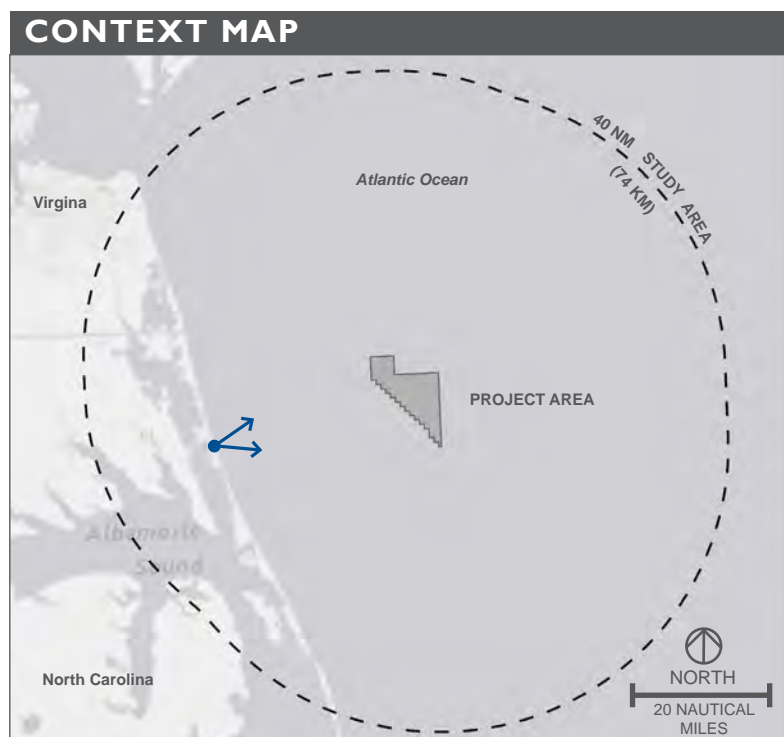
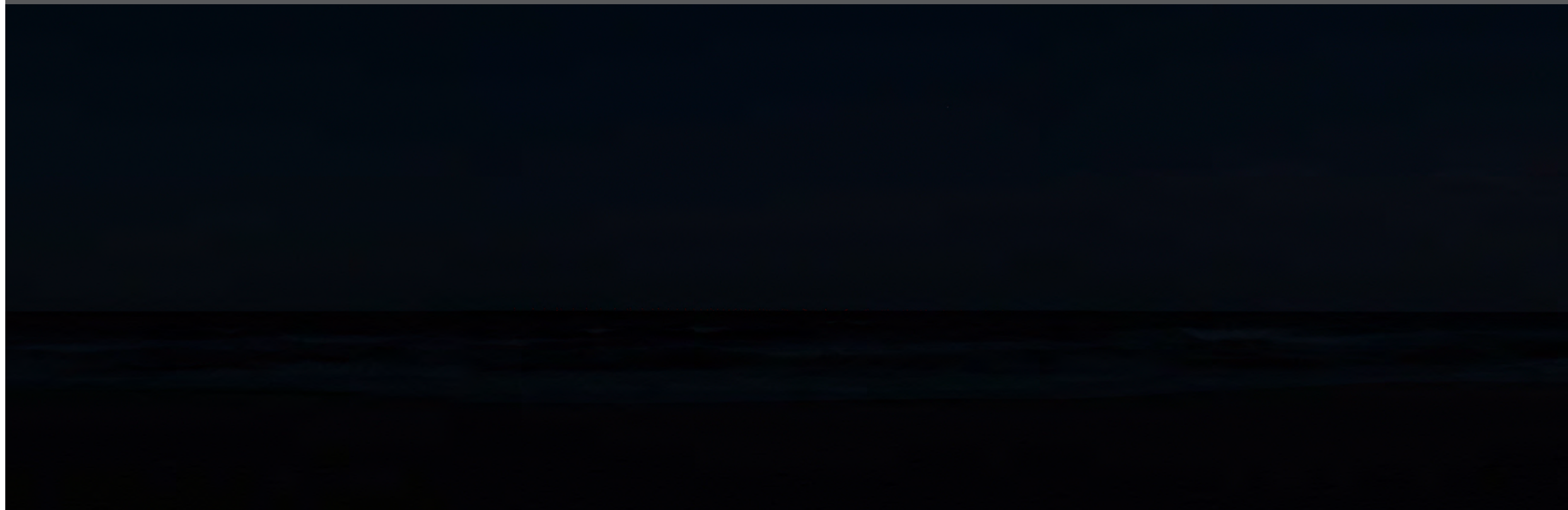


**KITTY HAWK
NORTH WIND**

tjd&a

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PANORAMIC VISUALIZATION



LOCATION

Viewpoint is located on the beach near the Yaupon Lane beach access ramp and stairs.

WTG DIMENSIONS

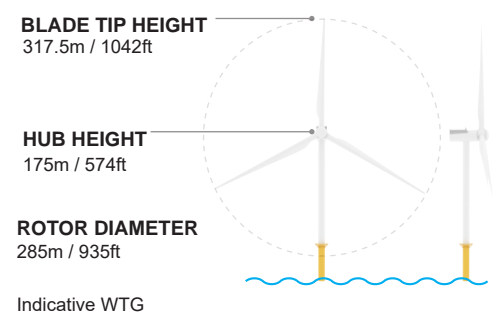


IMAGE DATA

LOCATION		ENVIRONMENTAL	
Date	June 23, 2021	Temperature (°F)	68°
Time	9:06 PM	Humidity	59%
Latitude	36.278376°	Visibility	10 mi
Longitude	-75.792267°	Tide Level	Mid (outgoing)
Direction of View	Northeast	Weather Conditions	Clear
Character Area	Dev. Beachfront	PROJECT VIEW	
		Distance to Project	45.16 km (28.06 mi)
		Project Horizontal Field of View (HFOV)	27.7°
PHOTO		WTG ORIENTATION	
Original Photo ID	DSC 9898	WTGs in visualization are oriented to face the prevailing wind from the southwest.	
Camera	NIKON D750		
Resolution	300 dpi		
Focal Length	50mm		
Viewer Eye Elevation	4.2 m (13.8 ft)		
PROJECT INFRASTRUCTURE			
Number of WTGs	69		
Number of Electrical Service Platforms	1		

VIEWPOINT 04a

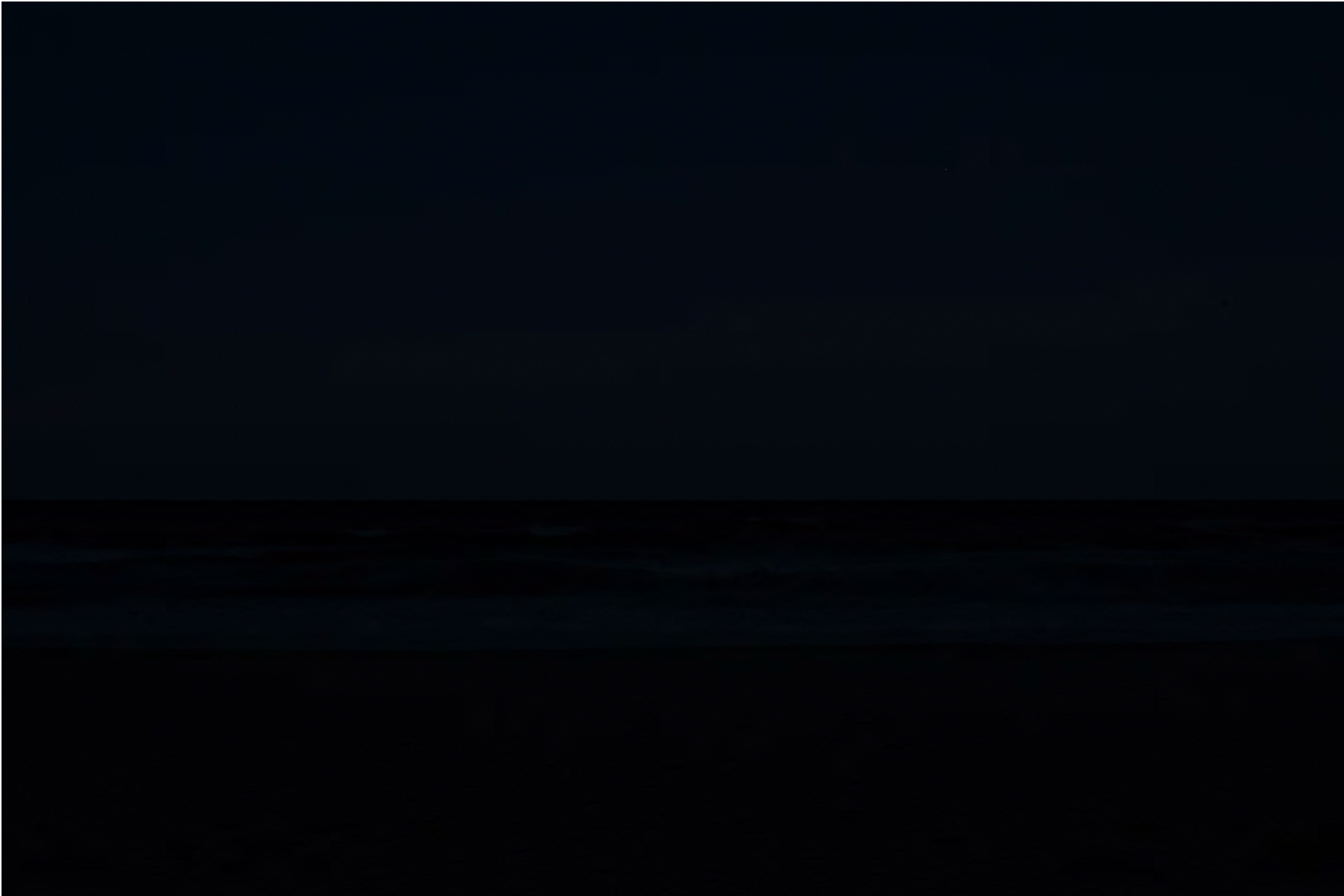
Southern Beach Access (Night)
Corolla, NC

KITTY HAWK NORTH WIND

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V04a. Southern Beach Access (Night)
Corolla, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V04a

**Southern
Beach Access
(Night)**

Corolla, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

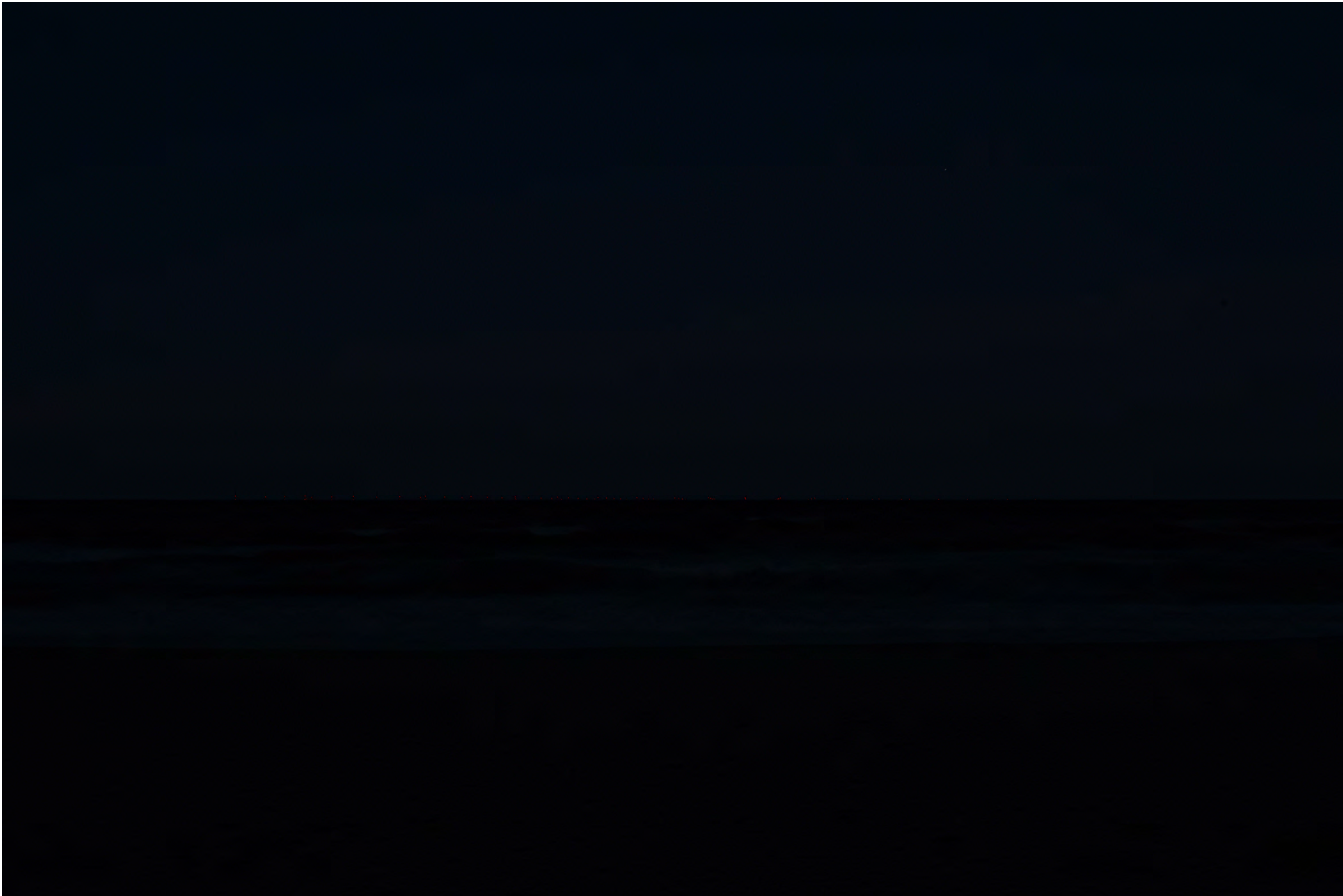
**KITTY HAWK
NORTH WIND**

tjd&a

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V04a. Southern Beach Access (Night) Corolla, NC

VISUALIZATION



NORMAL VIEW VISUALIZATION

V04a

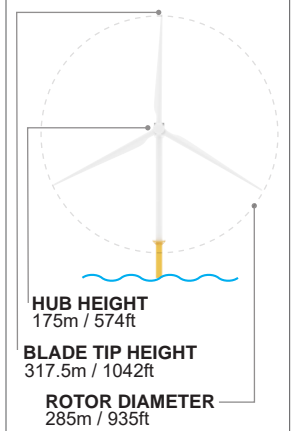
**Southern
Beach Access
(Night)**

Corolla, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



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V05. Hillcrest Drive Beach Access Southern Shores, NC

LANDSCAPE INFORMATION	
Viewpoint	V05, V05a, V05b, V05c
Visualization date(s) and time(s)	June 21, 2021 at 3:05 PM, June 24, 2021 at 7:54 PM & 9:40 PM, May 17, 2022 at 7:21 PM
Context Images Date(s)	June 21, 2021
Character Area	Developed Beachfront
Scenic Resources	The viewpoint is located on the beach by the Hillcrest Drive beach access way. The adjacent parking and facilities that serve the beach are managed by the Southern Shores Civic Association.



CONTEXT IMAGES

- Hillcrest Beach is privately owned and managed by the Southern Shores Civic Association.
- Most development within Southern Shores must meet standards to "preserve the character of the community and the integrity of the environment."
- Beach amenities include parking (for membership), lifeguards, restrooms, shade pavilion, access structure, and volleyball court.
- Most residential development is set back from the dunes with only the upper floors visible from the beach.
- The pier and observation tower north of the access point is part of the USACE Coastal and Hydraulics Laboratory's Field Research Facility, 4.3 km (2.7 mi) away in Duck.

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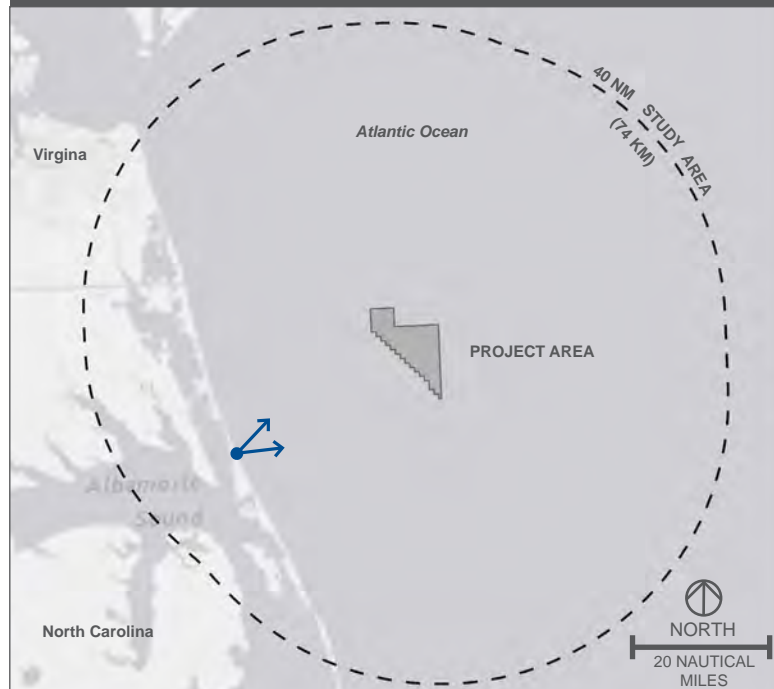
V05. Hillcrest Drive Beach Access (Day)

Southern Shores, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the beach at the base of the dunes.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

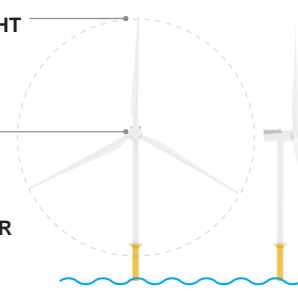


IMAGE DATA

LOCATION

Date	June 21, 2021
Time	3:05 PM
Latitude	36.145702°
Longitude	-75.734667°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 8016
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	5.2 m (17 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	91°
Humidity	53%
Visibility	10 mi
Tide Level	Mid (incoming)
Weather Conditions	Sunny/Clear

PROJECT VIEW

Distance to Project	48.16 km (29.93 mi)
Project Horizontal Field of View (HFOV)	29.9°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 05

**Hillcrest Drive
Beach Access (Day)**
Southern Shores, NC

**KITTY HAWK
NORTH WIND**

tjd&a

V05. Hillcrest Drive Beach Access (Day)
Southern Shores, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V05

**Hillcrest Drive
Beach Access
(Day)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V05. Hillcrest Drive Beach Access (Day)
Southern Shores, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V05

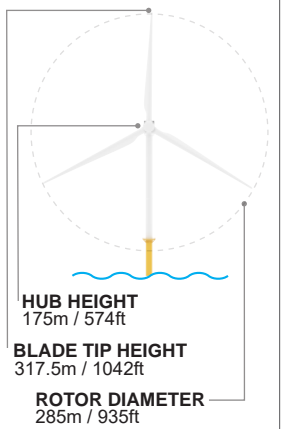
**Hillcrest Drive
Beach Access
(Day)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**

tjd&a

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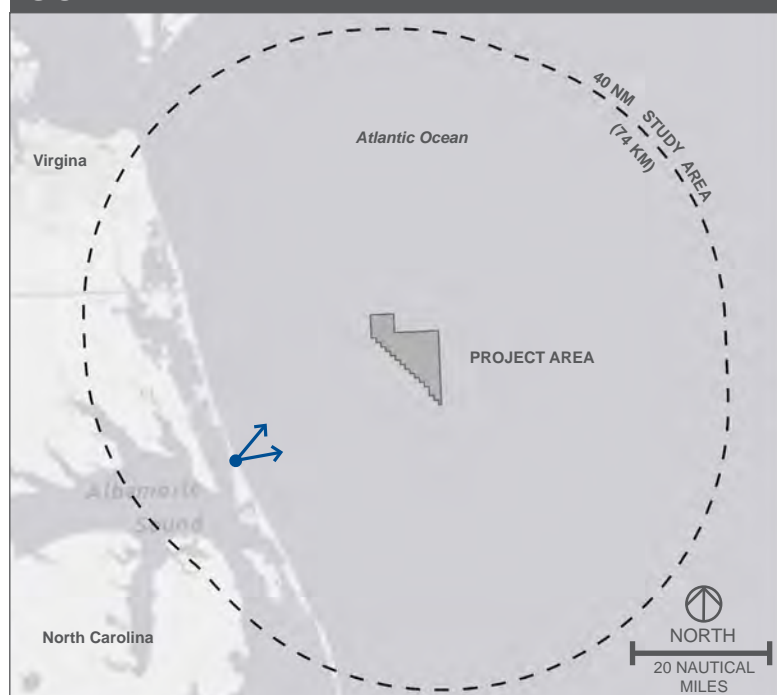
V05a. Hillcrest Drive Beach Access (Overcast Dusk)

Southern Shores, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the beach at the base of the dunes at dusk.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

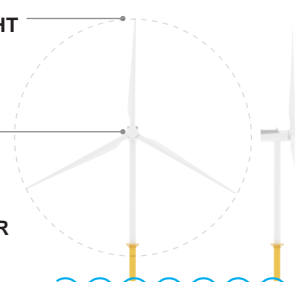


IMAGE DATA

LOCATION

Date	June 24, 2021
Time	7:54 PM
Latitude	36.145702°
Longitude	-75.734667°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 0146
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	5.2 m (17 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	70°
Humidity	73%
Visibility	10 mi
Tide Level	High
Weather Conditions	Partly Cloudy

PROJECT VIEW

Distance to Project	48.16 km (29.93 mi)
Project Horizontal Field of View (HFOV)	29.9°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 05a

Hillcrest Drive Beach Access (Overcast Dusk)

Southern Shores, NC

KITTY HAWK NORTH WIND



V05a. Hillcrest Drive Beach Access (Overcast Dusk)
Southern Shores, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V05a

**Hillcrest Drive
Beach Access
(Overcast
Dusk)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

30 September 2022
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V05a. Hillcrest Drive Beach Access (Overcast Dusk)
Southern Shores, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V05a

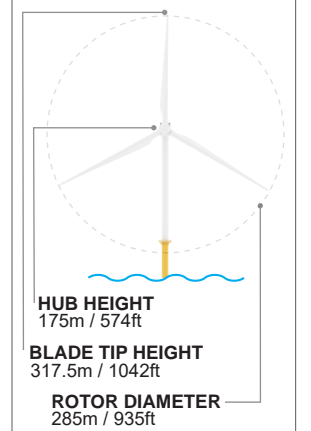
**Hillcrest Drive
Beach Access
(Overcast
Dusk)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



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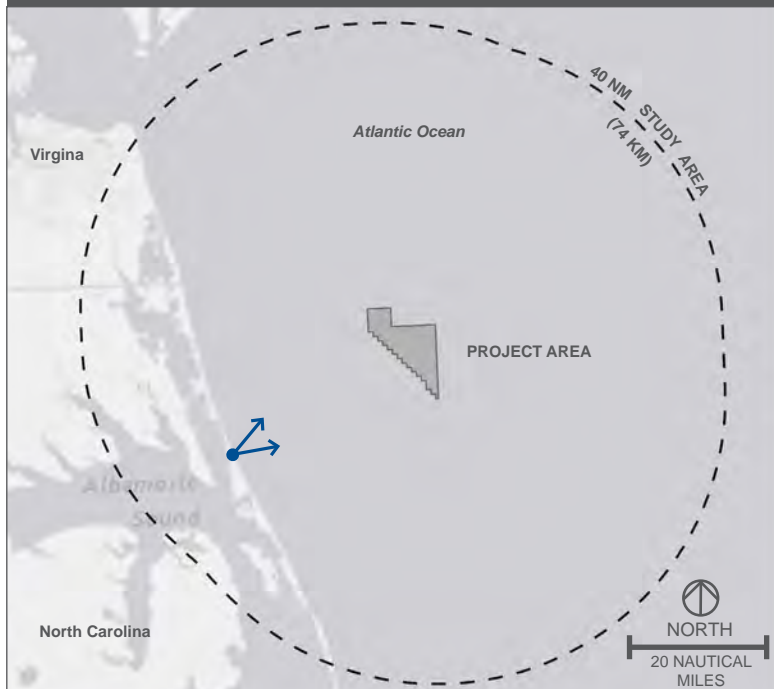
V05b. Hillcrest Drive Beach Access (Clear Dusk)

Southern Shores, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the beach at the base of the dunes at dusk.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

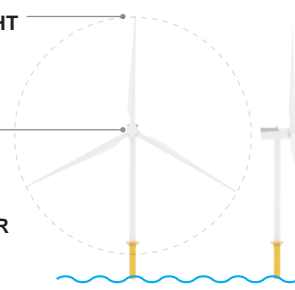


IMAGE DATA

LOCATION

Date	May 17, 2022
Time	7:21 PM
Latitude	36.145700°
Longitude	-75.73464°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 6008
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	5.2 m (17 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	70°
Humidity	59%
Visibility	10 mi
Tide Level	Mid (outgoing)
Weather Conditions	Clear

PROJECT VIEW

Distance to Project	48.1 km (29.9 mi)
Project Horizontal Field of View (HFOV)	29.9°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 05b

Hillcrest Drive Beach Access (Clear Dusk)
Southern Shores, NC

KITTY HAWK NORTH WIND

tjd&a

V05b. Hillcrest Drive Beach Access (Clear Dusk)
Southern Shores, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V05a

**Hillcrest Drive
Beach Access
(Clear Dusk)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

30 September 2022
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V05b. Hillcrest Drive Beach Access (Clear Dusk)

Southern Shores, NC

VISUALIZATION



NORMAL VIEW VISUALIZATION

V05a

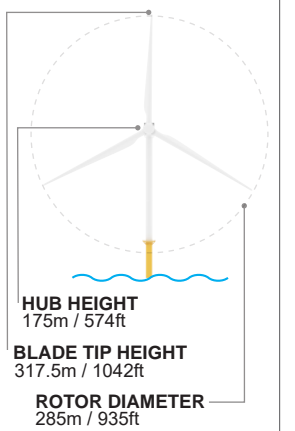
**Hillcrest Drive
Beach Access
(Clear Dusk)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



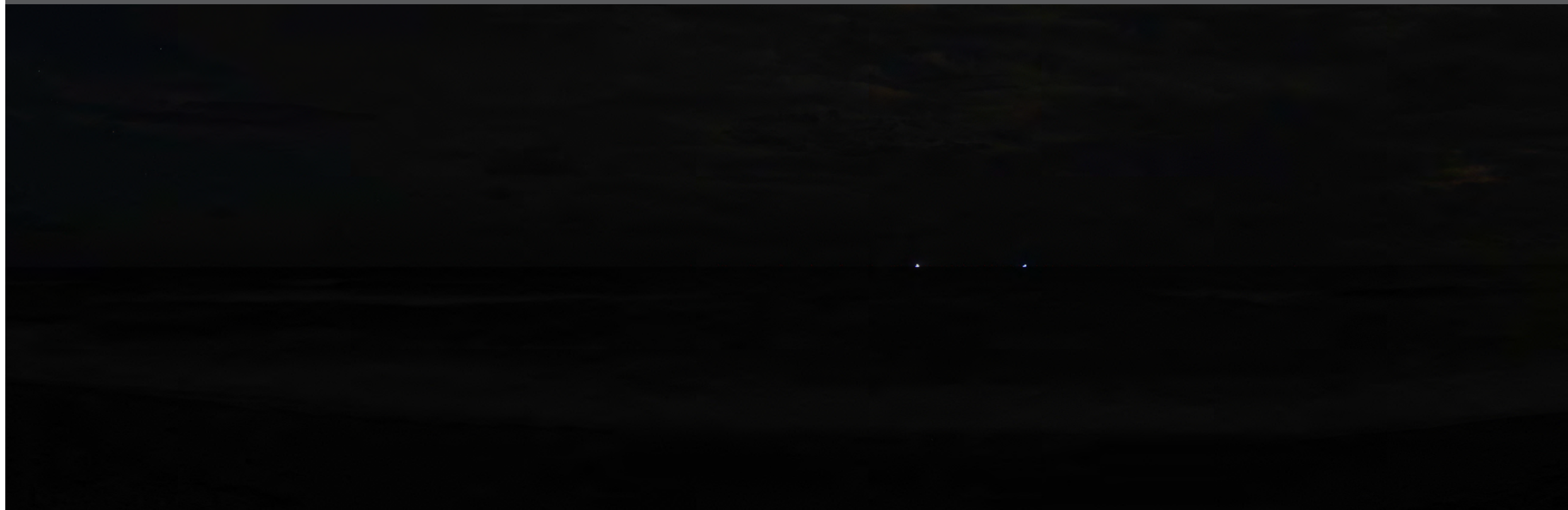
**KITTY HAWK
NORTH WIND**

tjd&a

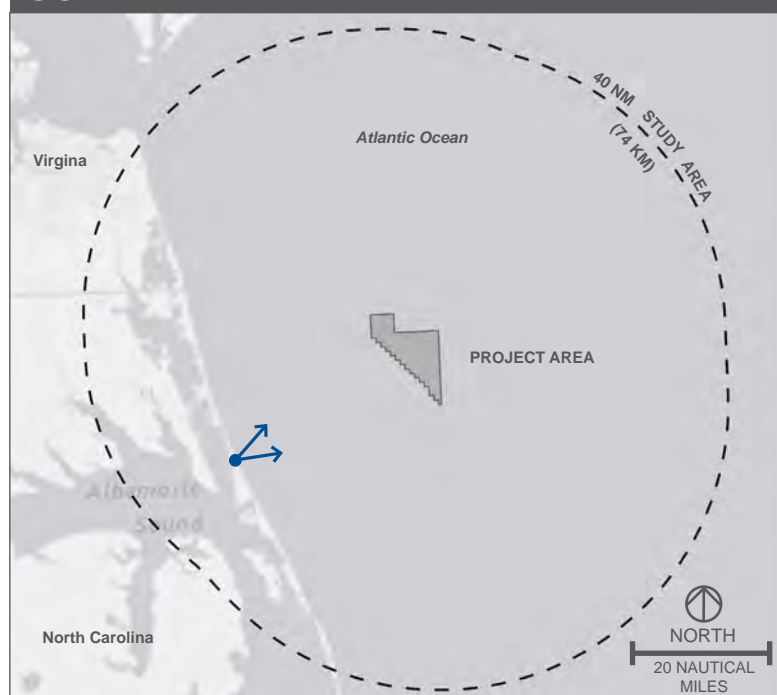
30 September 2022
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V05c. Hillcrest Drive Beach Access (Night) Southern Shores, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the beach at the base of the dunes at night. Lights from ships can be seen on the horizon.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

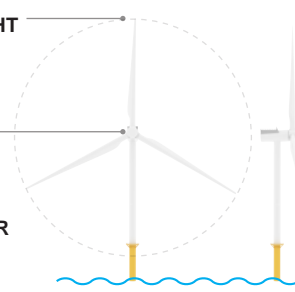


IMAGE DATA

LOCATION

Date	June 24, 2021
Time	9:40 PM
Latitude	36.145702°
Longitude	-75.734667°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 0204
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	5.2 m (17 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	69°
Humidity	70%
Visibility	10 mi
Tide Level	Mid (outgoing)
Weather Conditions	Partly Cloudy

PROJECT VIEW

Distance to Project	48.16 km (29.93 mi)
Project Horizontal Field of View (HFOV)	29.9°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 05c

**Hillcrest Drive
Beach Access (Night)
Southern Shores, NC**

**KITTY HAWK
NORTH WIND**

tjd&a

V05c. Hillcrest Drive Beach Access (Night)
Southern Shores, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V05c

**Hillcrest Drive
Beach Access
(Night)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V05c. Hillcrest Drive Beach Access (Night) Southern Shores, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V05c

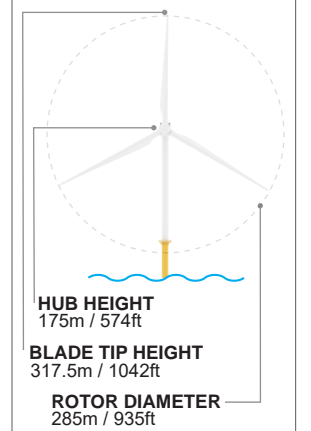
**Hillcrest Drive
Beach Access
(Night)**

**Southern
Shores, NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



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V06. Kitty Hawk Pier

Kitty Hawk, NC

LANDSCAPE INFORMATION

Viewpoint	V06, V06a
Visualization date(s) and time(s)	June 22, 2021 at 4:28 PM, and May 17, 2022 at 6:53 PM
Context Images Date(s)	June 22, 2021
Character Area	Developed Beachfront
Scenic Resources	The viewpoint is located on the Kitty Hawk Pier, owned by the Hilton Garden Inn.

SITE MAP



Viewpoint Location
 Context Photo Location
 Primary View Direction
 Unobstructed View
 Project Horizontal Field of View (HFOV)

CONTEXT IMAGES



1. Kitty Hawk Pier House is open for guests of the adjacent Hilton Garden Inn, and is used for weddings and social events.



2. Pier and Pier House is owned by the Hilton Garden Inn. Parking permits required for non-guests of the Inn.



3. Pier also provides access to the beach.



4. The pier is open to the public for fishing and sightseeing with a purchased pass.



5. Pier extends approximately 250 ft from the Pier House over the ocean, and includes seating and fishing stations.



6. Kitty Hawk pier is surrounded by coastal residential and commercial development.

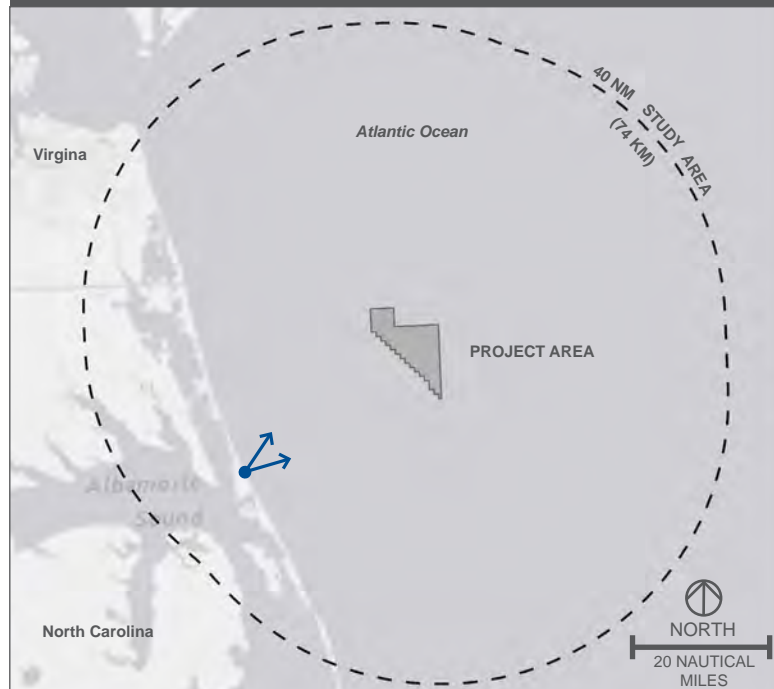
V06. Kitty Hawk Pier (Overcast)

Kitty Hawk, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located at the end of Kitty Hawk Pier.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

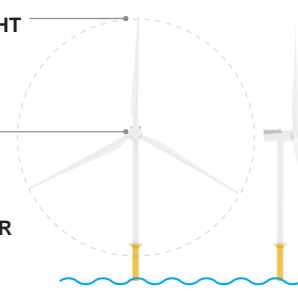


IMAGE DATA

LOCATION

Date	June 22, 2021
Time	4:28 PM
Latitude	36.101710°
Longitude	-75.710078°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 9292
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	7.5 m (24.6 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	70°
Humidity	84%
Visibility	10 mi
Tide Level	Mid (outgoing)
Weather Conditions	Cloudy

PROJECT VIEW

Distance to Project	49.85 km (30.98 mi)
Project Horizontal Field of View (HFOV)	29.7°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 06

**Kitty Hawk Pier
(Overcast)**
Kitty Hawk, NC

**KITTY HAWK
NORTH WIND**

tjd&a

V06. Kitty Hawk Pier (Overcast)
Kitty Hawk, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V06

**Kitty
Hawk Pier
(Overcast)**

Kitty Hawk, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

30 September 2022
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V06. Kitty Hawk Pier (Overcast)

Kitty Hawk, NC

VISUALIZATION



NORMAL VIEW VISUALIZATION

V06

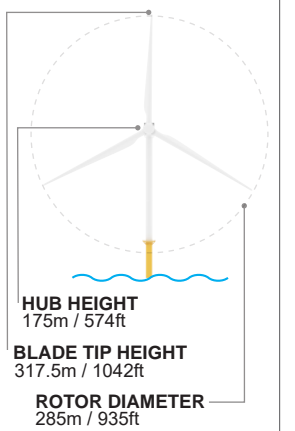
Kitty Hawk Pier (Overcast)

Kitty Hawk, NC

VIEW NOTE

To replicate actual view:
View on screen from a distance equal to 1.5 times the image width or print on 11x17 (tabloid) and hold page 21 inches from eye.

WTG DIMENSIONS



KITTY HAWK NORTH WIND



30 September 2022
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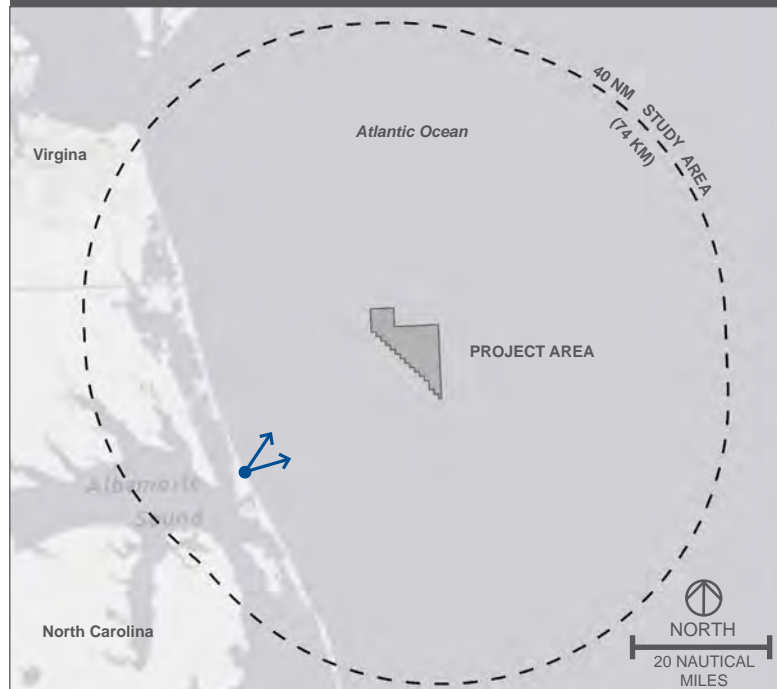
V06a. Kitty Hawk Pier (Clear)

Kitty Hawk, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located at the end of Kitty Hawk Pier.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

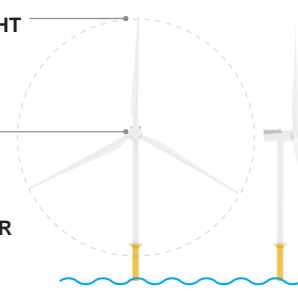


IMAGE DATA

LOCATION

Date	May 17, 2022
Time	6:53 PM
Latitude	36.101780°
Longitude	-75.71001°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 5860
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	7.5 m (24.6 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	70°
Humidity	59%
Visibility	10 mi
Tide Level	Mid (incoming)
Weather Conditions	Clear

PROJECT VIEW

Distance to Project	49.85 km (30.98 mi)
Project Horizontal Field of View (HFOV)	29.7°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 06a

**Kitty Hawk Pier
(Clear)**
Kitty Hawk, NC

**KITTY HAWK
NORTH WIND**

tjd&a

V06a. Kitty Hawk Pier (Clear)
Kitty Hawk, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V06a

**Kitty Hawk
Pier (Clear)**

Kitty Hawk, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

30 September 2022
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V06a. Kitty Hawk Pier (Clear)

Kitty Hawk, NC

VISUALIZATION



NORMAL VIEW VISUALIZATION

V06a

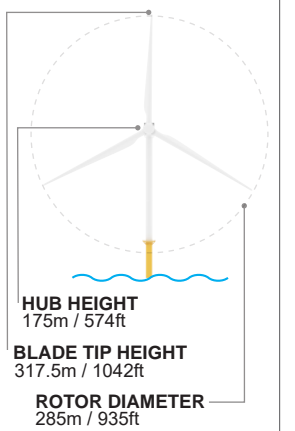
Kitty Hawk Pier (Clear)

Kitty Hawk, NC

VIEW NOTE

To replicate actual view:
View on screen from a distance equal to 1.5 times the image width or print on 11x17 (tabloid) and hold page 21 inches from eye.

WTG DIMENSIONS



KITTY HAWK NORTH WIND



30 September 2022
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V07. Avalon Fishing Pier

Kill Devil Hills, NC

LANDSCAPE INFORMATION

Viewpoint	V07
Visualization date(s) and time(s)	June 22, 2021 at 3:49PM
Context Images Date(s)	June 22, 2021
Character Area	Developed Beachfront
Scenic Resources	The viewpoint is located on Avalon Fishing Pier, a popular pier for both locals and tourists.

SITE MAP



CONTEXT IMAGES



1. Inside the Fishing Pier, where customers get hand-stamped to enter the pier.



2. View to beach looking north. Avalon is one of the notable surfing locations along the Outer Banks.



3. Pier features a bait and tackle shop, two-story restaurant/bar, and a gift shop.



4. Fishing and ocean viewing are primary activities. Cleaning station is typical of fishing piers on the Outer Banks.



5. Pier extends approximately 700 ft into the ocean. Pier is open daily from 8AM to 2AM.



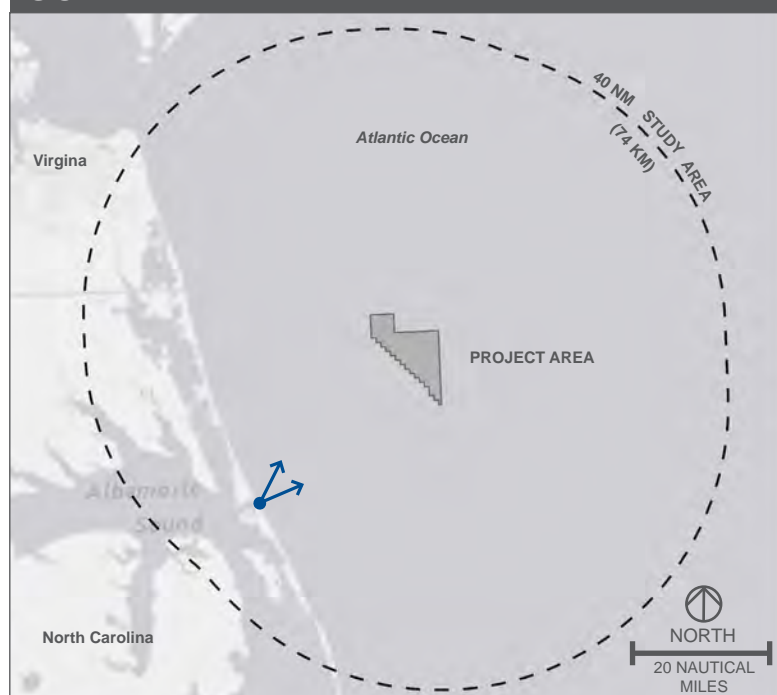
6. Avalon Fishing Pier is one of the few places offering food and beverages over the ocean on the Outer Banks.

V07. Avalon Fishing Pier Kill Devil Hills, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located approximately halfway along the length of the fishing pier.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

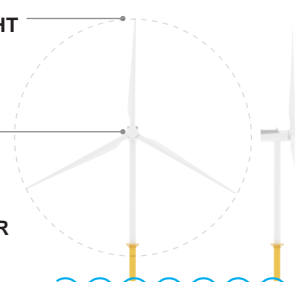


IMAGE DATA

LOCATION

Date	June 22, 2021
Time	3:49 PM
Latitude	36.044587°
Longitude	-75.673709°
Direction of View	Northeast
Character Area	Dev. Beachfront

PHOTO

Original Photo ID	DSC 9115
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	7.3 m (24.1 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	82°
Humidity	72%
Visibility	10 mi
Tide Level	Mid (incoming)
Weather Conditions	Cloudy

PROJECT VIEW

Distance to Project	51.75 km (32.15 mi)
Project Horizontal Field of View (HFOV)	28.9°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 07

Avalon Fishing Pier

Kill Devil Hills, NC

**KITTY HAWK
NORTH WIND**

tjd&a

V07. Avalon Fishing Pier
Kill Devil Hills, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V07

**Avalon
Fishing Pier**

**Kill Devil Hills,
NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V07. Avalon Fishing Pier
Kill Devil Hills, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V07

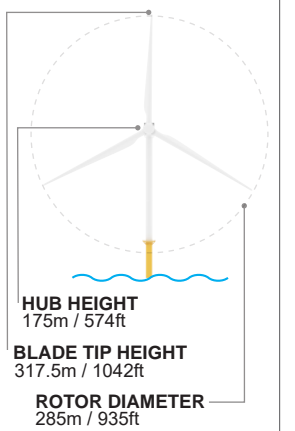
**Avalon
Fishing Pier**

**Kill Devil Hills,
NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**

tjd&a

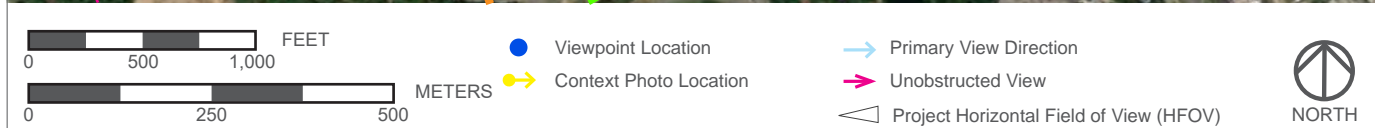
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V08. Wright Brothers National Memorial Kill Devil Hills, NC

LANDSCAPE INFORMATION

Viewpoint	V08
Visualization date(s) and time(s)	June 23, 2021 at 3:52 PM
Context Images Date(s)	June 22, 2021; June 23, 2021
Character Area	Conservation Area
Scenic Resources	The viewpoint is located on the Wright Brothers Monument atop Big Kill Devil Hill, within the Wright Brothers National Memorial. From the monument, visitors can observe 360-degree views of the park and surrounding area beyond.

SITE MAP



CONTEXT IMAGES



1. The NPS is currently preparing a General Management Plan Amendment to review existing strategies to protect park resources and improve visitor experience.



2. View east toward the Ocean from the Monument. In 1903 the landscape was primarily dunes. Trees were planted to stabilize the dunes and create the monument.



3. The Wright brothers selected this site for its isolation, high dunes, strong winds, and soft landings. This is the only location within the NM where the ocean is visible.



4. A sculptural rendition of the first plane extends the visitor experience south of the Monument.



5. The Visitor Center contains interpretive exhibits, including a full-scale model of the original Wright Brothers plan.



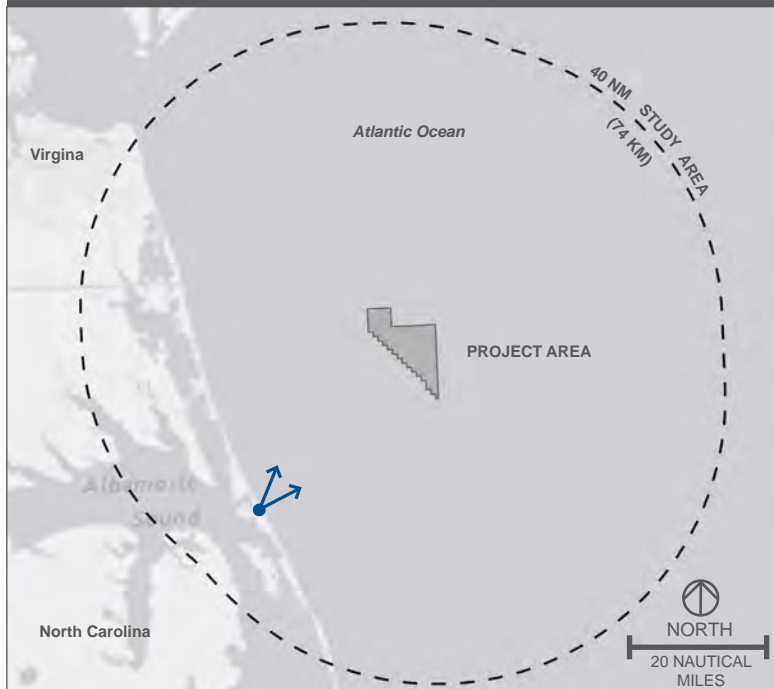
6. Wright Brothers Monument (60' in height) atop Kill Devil Hill (90' in height) marks the site of the first powered flights. Visitors walk the path of the historic flights.

V08. Wright Brothers National Memorial Kill Devil Hills, NC

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is from the elevated Wright Brothers Monument on Big Kill Devil Hill, within the Wright Brothers National Memorial. This is the only location within the National Memorial where the ocean is visible.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

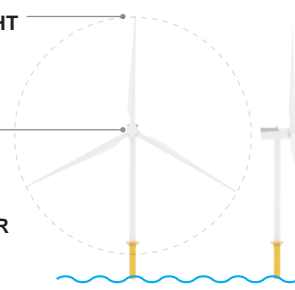


IMAGE DATA

LOCATION

Date	June 23, 2021
Time	3:52 PM
Latitude	36.014357°
Longitude	-75.667754°
Direction of View	Northeast
Character Area	Conservation Area

PHOTO

Original Photo ID	DSC 9638
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	28.5 m (93.6 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	71°
Humidity	53%
Visibility	10 mi
Tide Level	Mid (incoming)
Weather Conditions	Partly Sunny

PROJECT VIEW

Distance to Project	53.79 km (33.42 mi)
Project Horizontal Field of View (HFOV)	27.8°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 08

**Wright Brothers
National Memorial**
Kill Devil Hills, NC

**KITTY HAWK
NORTH WIND**

tjd&a

V08. Wright Brothers National Memorial
Kill Devil Hills, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V08

**Wright
Brothers
National
Memorial**

**Kill Devil Hills,
NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V08. Wright Brothers National Memorial Kill Devil Hills, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V08

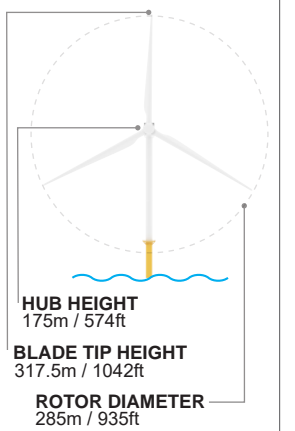
**Wright
Brothers
National
Memorial**

**Kill Devil Hills,
NC**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



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V09. Jockey's Ridge State Park Nags Head, NC

LANDSCAPE INFORMATION

Viewpoint	V09
Visualization date(s) and time(s)	June 22, 2021 at 11:29 AM
Context Images Date(s)	June 22, 2021
Character Area	Conservation Area
Scenic Resources	The viewpoint is within Jockey's Ridge State Park. The Park includes walking trails and large areas of elevated sand dunes that provide 360-degree views of the surrounding landscape, kite flying, and hang gliding.

SITE MAP



CONTEXT IMAGES



1. The path to the dunes winds through live oaks and opens to a barren, desert-like landscape.



2. Jockey's Ridge contains the largest natural active sand dune system in the eastern U.S. Shifting winds constantly change the size and shape of the dunes.



3. Croatan Highway (Route 158) forms the eastern boundary of the park. A high-voltage transmission line parallels the highway for over 19 km (12 mi) from Kitty Hawk to Nag's Head.



4. Kite flying and hang gliding are two popular airborne activities within the park that take advantage of the prevailing winds.

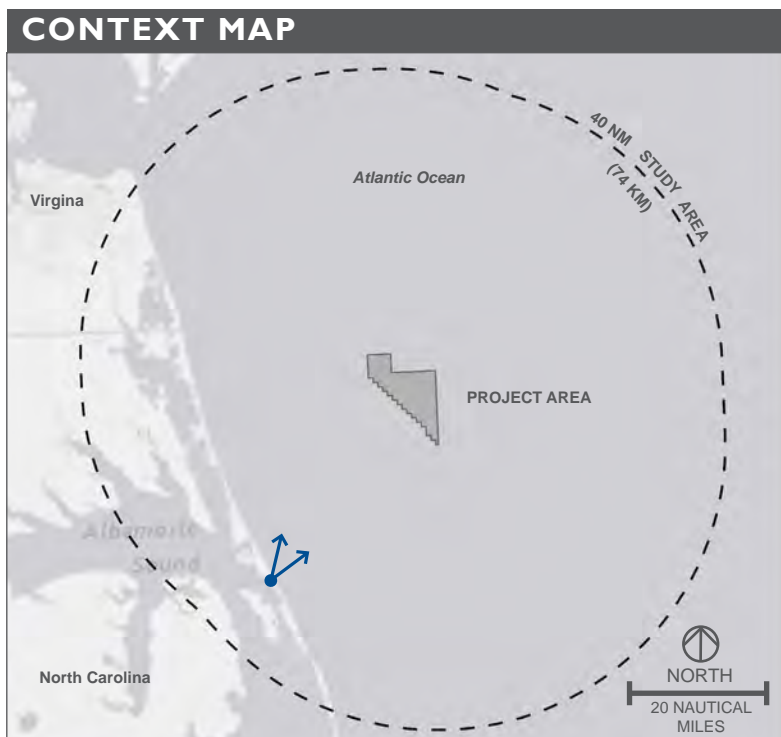


5. The easterly view from the dune closest to the ocean looks out over Beach Cottage Row Historic District in Nag's Head.



6. Boardwalks, overlooks, and sandy trails provide visitor access to the State Park.

PANORAMIC VISUALIZATION



LOCATION

Viewpoint is located atop a large sand dune within the Park.

WTG DIMENSIONS

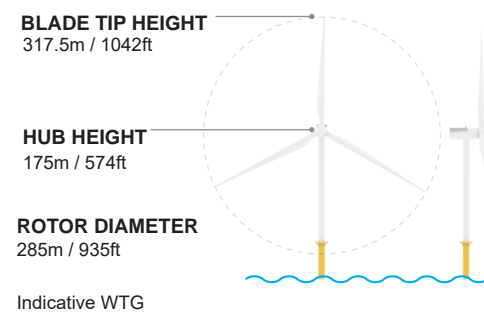


IMAGE DATA

LOCATION

Date	June 22, 2021
Time	11:29 AM
Latitude	35.958597°
Longitude	-75.633405°
Direction of View	Northeast
Character Area	Conservation Area

PHOTO

Original Photo ID	DSC 8909
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	21.8 m (71.7 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	81°
Humidity	70%
Visibility	10 mi
Tide Level	Low
Weather Conditions	Cloudy

PROJECT VIEW

Distance to Project	55.36 km (34.40 mi)
Project Horizontal Field of View (HFOV)	26.1°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT 09

**Jockey's Ridge
State Park
Nags Head, NC**

**KITTY HAWK
NORTH WIND**





**NORMAL VIEW
EXISTING IMAGE**

V09

**Jockey's Ridge
State Park**

Nags Head, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V09. Jockey's Ridge State Park Nags Head, NC

VISUALIZATION



NORMAL VIEW VISUALIZATION

V09

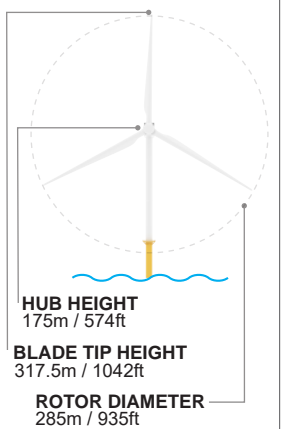
**Jockey's Ridge
State Park**

Nags Head, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**

tjd&a

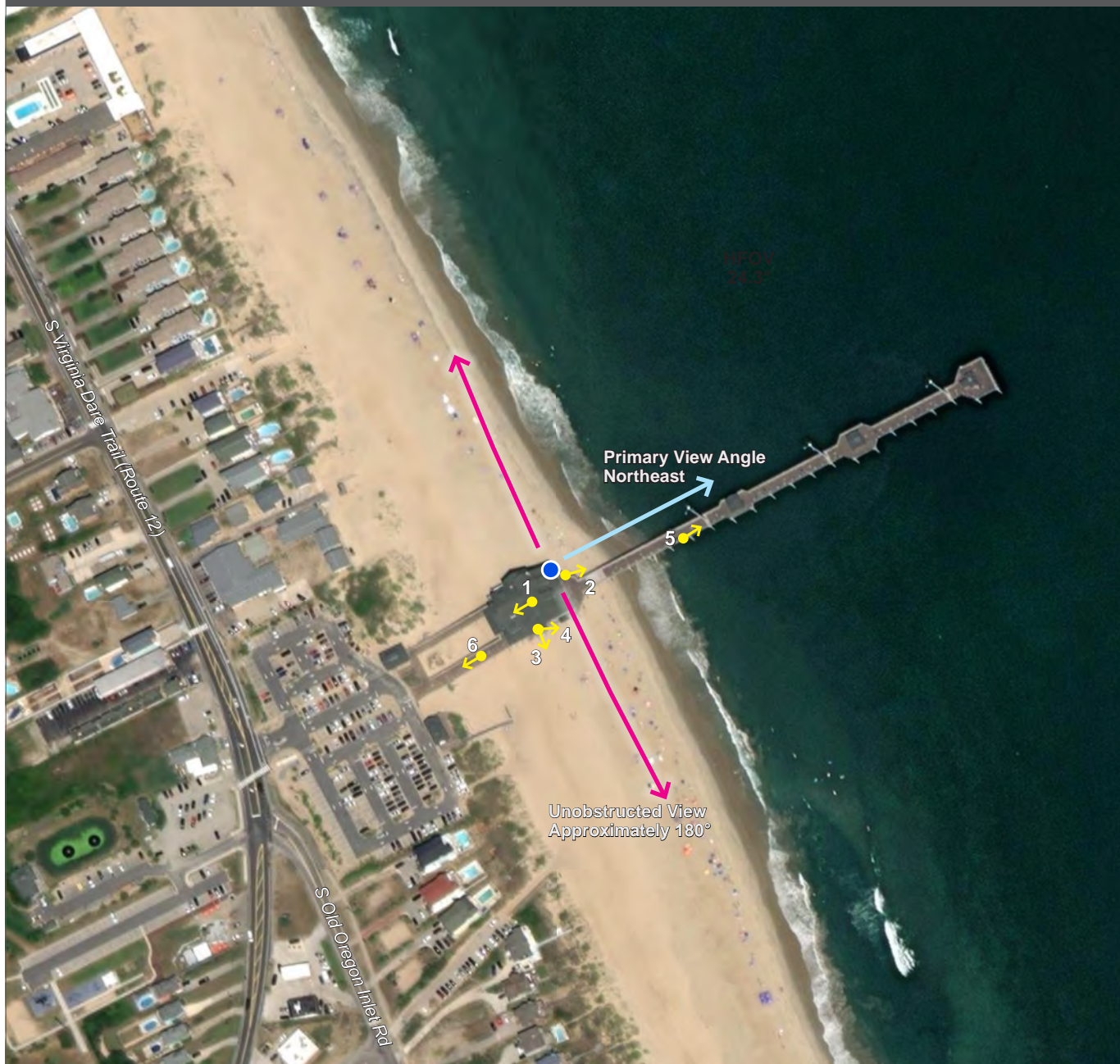
30 September 2022
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V10. Jennette's Pier Nags Head, NC

LANDSCAPE INFORMATION

Viewpoint	V10
Visualization date(s) and time(s)	June 22, 2021 at 8:04 AM
Context Images Date(s)	June 22, 2021
Character Area	Developed Beachfront
Scenic Resources	The viewpoint is located on the upper deck of Jennette's Pier. The pier includes event space, fishing, beach access, shops, and an aquarium exhibit.

SITE MAP



0 250 500 FEET
0 50 100 METERS

- Viewpoint Location
- Primary View Direction
- Context Photo Location
- Unobstructed View
- ◁ Project Horizontal Field of View (HFOV)

NORTH

CONTEXT IMAGES



1. One of the main attractions in the pier house is the aquarium, one of four facilities in the NC Aquarium division of the NC Department of Natural and Cultural Resources.



2. The educational ocean pier, dedicated in 2011, replaced an earlier wooden pier destroyed by Hurricane Isabel in 2003. At over 1,000 ft, Jennette's is the longest public pier in NC.



3. The pier is flanked by wide public beaches with free parking and a bath house.



4. The second floor terrace of the pier house (location of the photosimulation) provides a 180° view of the ocean.



5. The pier, well known for its ocean fishing, is open 6AM to midnight from May through October.

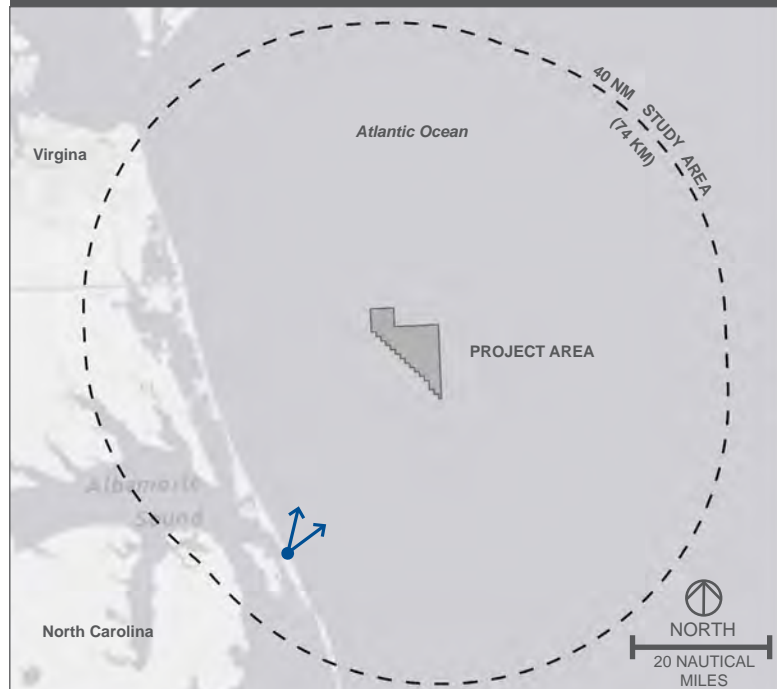


6. The pier is surrounded by residential and commercial properties, with substantial parking facilities and other amenities to serve large numbers of visitors.

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the upper deck of the pier building.

WTG DIMENSIONS

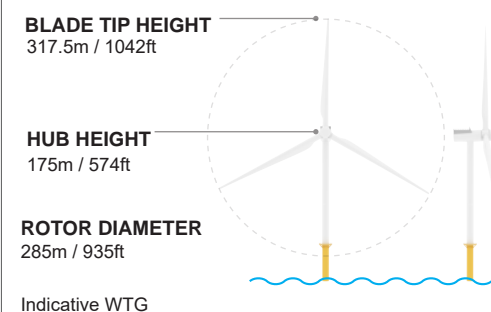


IMAGE DATA

LOCATION		ENVIRONMENTAL	
Date	June 22, 2021	Temperature (°F)	80°
Time	8:04 AM	Humidity	78%
Latitude	35.910207°	Visibility	10 mi
Longitude	-75.595446°	Tide Level	Mid (outgoing)
Direction of View	Northeast	Weather Conditions	Partly Sunny
Character Area	Dev. Beachfront	PROJECT VIEW	
		Distance to Project	56.44 km (35.07 mi)
		Project Horizontal Field of View (HFOV)	24.3°
PHOTO		WTG ORIENTATION	
Original Photo ID	DSC 8537	WTGs in visualization are oriented to face the prevailing wind from the southwest.	
Camera	NIKON D750		
Resolution	300 dpi		
Focal Length	50mm		
Viewer Eye Elevation	13.6 m (44.7 ft)		
PROJECT INFRASTRUCTURE			
Number of WTGs	69		
Number of Electrical Service Platforms	1		

VIEWPOINT 10

Jennette's Pier

Nags Head, NC

**KITTY HAWK
NORTH WIND**



V10. Jennette's Pier
Nags Head, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

V10

**Jennette's
Pier**

Nags Head, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V10. Jennette's Pier
Nags Head, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

V10

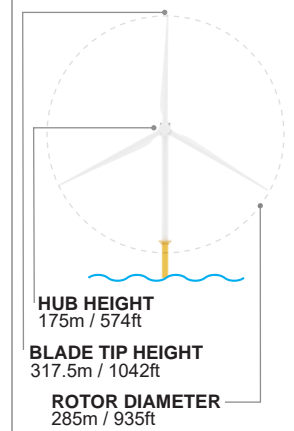
**Jennette's
Pier**

Nags Head, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



**KITTY HAWK
NORTH WIND**



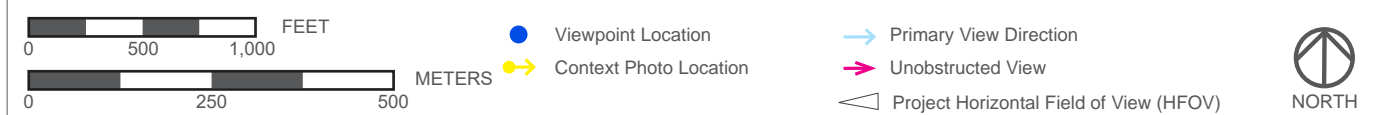
30 September 2022
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V11. Bodie Island Light Station Nags Head, NC

LANDSCAPE INFORMATION

Viewpoint	V11
Visualization date(s) and time(s)	June 22, 2021 at 9:12 AM
Context Images Date(s)	June 22, 2021
Character Area	Conservation Area
Scenic Resources	The viewpoint is located atop the historic 156-foot Bodie Island Light Station. The light station is within the Cape Hatteras National Seashore.

SITE MAP



CONTEXT IMAGES



1. Bodie Island Light Station, one of three lighthouses on Cape Hatteras National Seashore, is managed and operated by the National Park Service.



2. The lighthouse keepers' duplex is now a ranger station, museum, gift shop, and Outer Banks information center.



3. Bodie Island is the northernmost part of the National Seashore, which includes over 113 km (70 miles) of beaches and dunes.



4. A boardwalk and elevated viewing platform overlooking the surrounding marshland, dune system, and Atlantic Ocean.



5. The lighthouse is open to the public by paid reservation. Eight climbers are allowed every 30 minutes from 9AM until 5:30 PM. Full moon climbs are offered during summer.



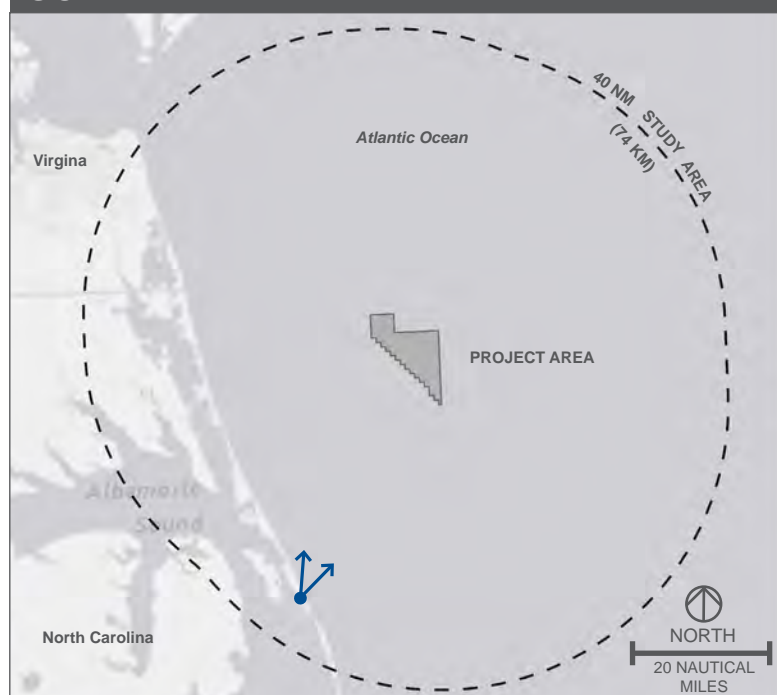
6. Nearby Coquina Beach is known for its natural undeveloped shoreline, birdwatching, and surf fishing. Parts of the beach are also available for 4WD access.

30 September 2022

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

Viewpoint is located on the lighthouse catwalk that provides 360-degree views of the surrounding area.

WTG DIMENSIONS

BLADE TIP HEIGHT
317.5m / 1042ft

HUB HEIGHT
175m / 574ft

ROTOR DIAMETER
285m / 935ft

Indicative WTG

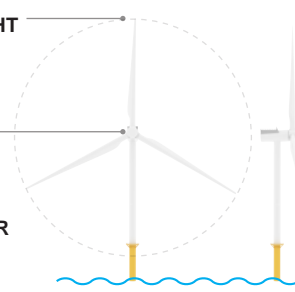


IMAGE DATA

LOCATION

Date	June 22, 2021
Time	9:12 AM
Latitude	35.818575°
Longitude	-75.563276°
Direction of View	Northeast
Character Area	Conservation Area

PHOTO

Original Photo ID	DSC 8659
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	41.1 m (145 ft)

PROJECT INFRASTRUCTURE

Number of WTGs	69
Number of Electrical Service Platforms	1

ENVIRONMENTAL

Temperature (°F)	81°
Humidity	73%
Visibility	10 mi
Tide Level	Mid (outgoing)
Weather Conditions	Partly Sunny

PROJECT VIEW

Distance to Project	62.35 km (38.74 mi)
Project Horizontal Field of View (HFOV)	20.7°

WTG ORIENTATION

WTGs in visualization are oriented to face the prevailing wind from the southwest.

VIEWPOINT I I

**Bodie Island
Light Station
Nags Head, NC**

**KITTY HAWK
NORTH WIND**

tjd&a

V11. Bodie Island Light Station
Nags Head, NC

EXISTING CONDITIONS



**NORMAL VIEW
EXISTING IMAGE**

VII

**Bodie Island
Light Station**

Nags Head, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH WIND**

tjd&a

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V11. Bodie Island Light Station Nags Head, NC

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

VII

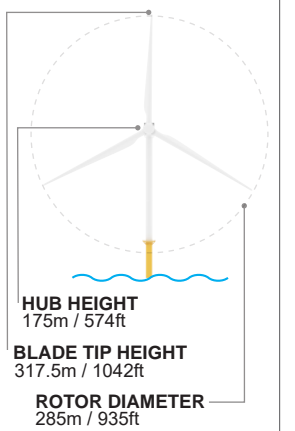
**Bodie Island
Light Station**

Nags Head, NC

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

WTG DIMENSIONS



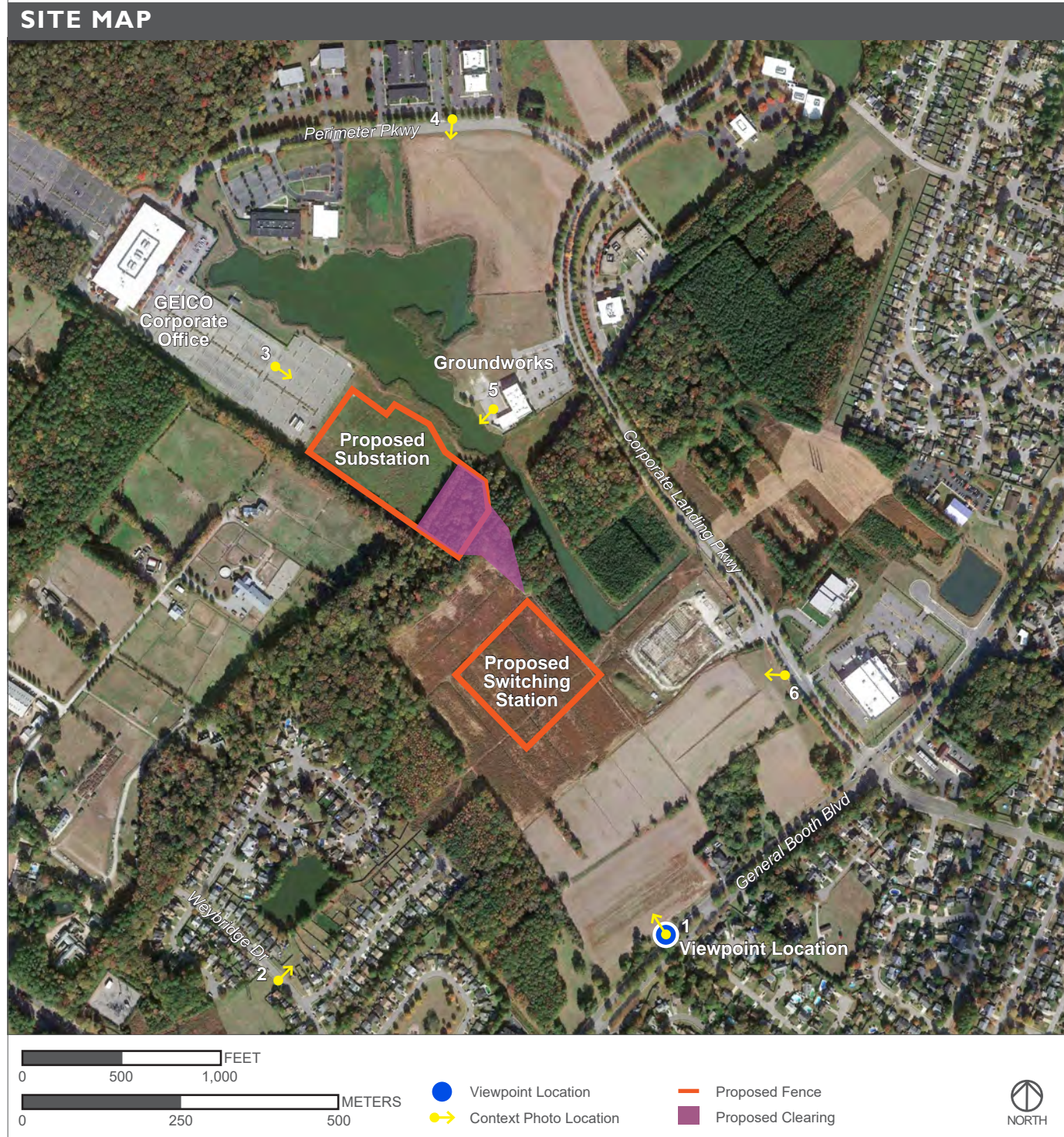
**KITTY HAWK
NORTH WIND**

tjd&a

30 September 2022
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Corporate Landing Substation and Switching Station Virginia Beach, VA

KOP INFORMATION	
Date / Time of Viewpoint Photograph(s)	June 21, 2021 at 12:02 PM
Context Images Date	June 21, 2021
Character Area	Residential and Commercial
Description	The viewpoint is located on General Booth Boulevard approximately 0.4 km (0.25 mi) southwest of the intersection with Corporate Landing Parkway.



CONTEXT IMAGES



1. Looking northwest from General Booth Boulevard at the viewpoint. The proposed switching station will be visible to the north-northwest from this viewpoint at a distance of 0.37 km (0.23 mi).



2. Weybridge Drive looking northeast within the existing transmission line corridor. Portions of the switching station will be visible from this viewpoint at a distance of 0.54 km (0.33 mi).



3. GEICO Corporate Office parking lot looking southeast. The proposed substation will be visible from this viewpoint at a distance of 0.12 km (400 ft).



4. Perimeter Parkway looking south. The proposed substation will be visible from this viewpoint to the right of the Groundworks building at a distance of 0.45 km (0.28 mi).



5. Groundworks parking lot looking southwest. The proposed substation will be visible from this viewpoint at a distance of 0.10 km (330 ft).



6. Corporate Landing Parkway looking west. The proposed switching station will be partially visible from this viewpoint at a distance of 0.30 km (0.18 mi).

Corporate Landing Substation and Switching Station Virginia Beach, VA

PANORAMIC VISUALIZATION



CONTEXT MAP



LOCATION

The viewpoint is located on General Booth Boulevard approximately 0.4 km (0.25 mi) southwest of the intersection with Corporate Landing Parkway.

The closest point of the proposed switching station is approximately 0.37 km (0.23 mi) from the viewpoint. The four monopole structures on the south side of the switching station are approximately 0.39 km (0.25 mi) from the viewpoint and approximately 115 feet in height.

IMAGE DATA

LOCATION

Date	June 21, 2021
Time	12:02 PM
Latitude	36.772868°
Longitude	-76.009992°
Direction of View	North Northwest

PHOTO

Original Photo ID	DSC 7663
Camera	NIKON D750
Resolution	300 dpi
Focal Length	50mm
Viewer Eye Elevation	6.5 m (21.5 ft)

PROJECT VIEW

Distance to Project	0.37 km (0.23 mi)
Project Horizontal Field of View (HFOV)	24.8°

**Corporate Landing
Substation and
Switching Station**
General Booth Boulevard
Virginia Beach, VA

**KITTY HAWK NORTH
WIND PROJECT**





**NORMAL VIEW
EXISTING IMAGE**

**General
Booth
Boulevard
Virginia Beach,
VA**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH
WIND PROJECT**

tjd&a

30 September 2022
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Corporate Landing Substation and Switching Station Virginia Beach, VA

VISUALIZATION



**NORMAL VIEW
VISUALIZATION**

**General
Booth
Boulevard
Virginia Beach,
VA**

VIEW NOTE

To replicate actual view:
View on screen from a
distance equal to 1.5
times the image width or
print on 11x17 (tabloid)
and hold page 21 inches
from eye.

**KITTY HAWK
NORTH
WIND PROJECT**

tjd&a

30 September 2022
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