

# **Empire Offshore Wind LLC and EW Offshore Wind Transport Corporation**

## **Empire Wind 2 Project**

### **Appendix I Article VII Application**

### **Visual Impact Assessment**

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Attachment I-1	Visual Resource Inventory
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**ACRONYMS AND ABBREVIATIONS**

ac	acre
aMSL	above mean sea level
BLM	U.S. Bureau of Land Management
BOEM	U.S. Bureau of Ocean Energy Management
BP	BP Wind Energy North America Inc
CMP	Coastal Management Program
COP	Construction and Operations Plan
CZMP	Coastal Zone Management Program
DEM	Digital Elevation Model
dSLR	digital single lens reflex
Empire or the Applicant	Empire Offshore Wind LLC and EW Offshore Wind Transport Corporation
Empire HoldCo	Empire Offshore Wind Holdings LLC
Equinor	Equinor ASA
EW 1	Empire Wind 1
EW 2	Empire Wind 2
ft	foot
GIS	Geographic Information System
GPS	global positioning system
ha	hectare
HVAC	high voltage alternating current
km	kilometer
kV	kilovolt
KOP	Key Observation Point
Lease Area	Designated Renewable Energy Lease Area OCS-A 0512
LIPA	Long Island Power Authority, Inc.
m	meter
mi	statute mile
nm	nautical mile
NAVD88	North American Vertical Datum of 1988
NJDEP	New Jersey Department of Environmental Protection
NJHPO	New Jersey State Historic Preservation Office
NOAA	National Oceanic and Atmospheric Administration
NPS	U.S. National Park Service
NRHP	U.S. National Register of Historic Places
NYDOS	New York Department of State
NYISO	New York Independent System Operator, Inc.

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NY Project	EW 2 Project transmission facilities in New York
NY Project Area	The area associated with the NY Project, including the submarine export cable corridor, onshore export cable corridor, onshore substation site, interconnection cable corridor, Hampton Road substation site, and loop-in / loop-out lines within New York State jurisdiction.
NYSPSC or Commission	New York State Public Service Commission
NYSDEC	New York State Department of Environmental Conservation
NYSHPO	New York State Historic Preservation Office
OCS	Outer Continental Shelf
POI	Point of interconnection at the Hampton Road substation
PSL	New York Public Service Law
SASS	Scenic Areas of Statewide Significance
VIA	Visual Impact Assessment
VRM	Visual Resource Management
VSA	Visual Study Area

## I.1 Introduction

Tetra Tech, Inc. was contracted by Empire Offshore Wind LLC<sup>1</sup> and EW Offshore Wind Transport Corporation (collectively, Empire or the Applicant) to prepare a Visual Impact Assessment (VIA) in support of the development of the Empire Wind 2 (EW 2) Article VII Application. The Applicant proposes to construct and operate the EW 2 Project (**Figure I-1**) as one of two separate offshore wind projects to be located within the Bureau of Ocean Energy Management (BOEM) designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). This assessment is being submitted to the New York State Public Service Commission (NYSPSC or Commission) for the portions of the EW 2 Project transmission system located within the State of New York (collectively the NY Project) pursuant to Article VII of the New York Public Service Law (PSL).

The NY Project will interconnect to the New York State Transmission System operated by the New York Independent System Operator, Inc. (NYISO) at the Oceanside Point of Interconnection (POI), located at the Hampton Road substation. The Hampton Road substation is located in Oceanside in the Town of Hempstead, New York. The NY Project's onshore facilities, including the onshore export and interconnection cable routes, onshore substation, Hampton Road substation, and loop-in / loop-out lines, are located entirely within Nassau County, New York.

The purpose of this VIA is to assess the potential visual effects resulting from the construction and operation of the NY Project.

BOEM will review the Construction and Operations Plan (COP) for the full offshore wind energy project (Empire Wind, including Empire Wind 1 [EW 1] and Empire Wind 2 [EW 2]). The COP for Empire Wind contains a visual analysis of all related onshore and offshore facilities. This assessment is focused on the NY Project, which is the portion of EW 2 in New York State and the subject of the Article VII Application; this assessment does not address the offshore wind farm itself. Because the offshore submarine export cables and the onshore export, interconnection, and loop-in / loop-out line cables included in the NY Project will be entirely submerged underwater or buried underground (with the exception of the portion of the interconnection cable route, which will cross Barnums Channel via a cable bridge) and therefore not visible, this VIA primarily focuses on the onshore substation in the Village of Island Park and the Hampton Road substation in Oceanside, both of which are in the Town of Hempstead, New York.

The VIA contained herein includes a detailed description of the NY Project components that were evaluated (Section I.2); a summary of the regulatory requirements and drivers behind the assessment conducted (Section I.3); a detailed discussion of the methods used to identify the Visual Study Areas (VSAs) (a 4-mi [6.4-km] buffer drawn around the aboveground onshore substation and Hampton Road substation) and an inventory of visual resources potentially affected by the construction and operation of the NY Project (Section I.4); a detailed discussion of the methods used to evaluate impacts and a summary of potential effects (Section I.5); and an evaluation of potential mitigation measures applicable to the NY Project (Section I.6).

The scope and approach to the visual analysis were supported through engagement with BOEM, U.S. National Park Service (NPS), the New York State Office of Parks, Recreation and Historic Preservation in its role as New York State Historic Preservation Office (NYSHPO), the New Jersey State Historic Preservation Office

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<sup>1</sup> Empire is a direct, wholly owned subsidiary of Empire Offshore Wind Holdings LLC (Empire HoldCo). Empire HoldCo is jointly owned by (1) an indirect, wholly owned subsidiary of Equinor ASA (collectively, Equinor); and (2) an indirect, wholly owned subsidiary of BP Wind Energy North America Inc. (BP). BP acquired ownership interest in Empire HoldCo in a transaction that closed on January 29, 2021.

(NJHPO), New Jersey Department of Environmental Protection (NJDEP), and New York State Department of Environmental Conservation (NYSDEC).

For the purposes of this VIA, the NY Project Area refers to the onshore substation, Hampton Road substation, and facilities discussed in Section I.2 and shown on **Figure I-1**.

Some historic resources are included as representative viewpoints and assessed as part of the VIA. A full evaluation of the potential impacts on historic resources is included in **Appendix J Analysis of Visual Effects to Historic and Architectural Properties**.

## I.2 NY Project Description

This section describes the following NY Project locations and infrastructure that have been reviewed for potential visual effects, including the following:

- Two three-core 345-kV high-voltage alternating-current (HVAC) submarine export cables located within an approximately 7.7-nautical mile (nm, 14.2-km)-long submarine export cable corridor from the boundary of New York State waters 3 nm (5.6 km) offshore to the cable landfall;
- A cable landfall in the City of Long Beach, New York;
- Two 345-kV onshore export cable circuits, each with three single-core HVAC onshore export cables within an approximately 1.6-mi (2.5-km)-long onshore export cable corridor from the cable landfall to the onshore substation;
- An onshore substation in the Village of Island Park, within the Town of Hempstead, New York, which will house major control components for the electrical system and perform functions such as voltage regulation, reactive power compensation, and harmonic filtering;
- Two 345-kV interconnection cable circuits, each with three single-core HVAC interconnection cables within an approximately 1.7-mi (2.8-km)-long interconnection cable corridor from the onshore substation to the Hampton Road substation;
- The new Hampton Road substation in Oceanside in the Town in Hempstead, New York, which will include substation facilities that will provide the necessary breaker arrays and 345-kV/138-kV transformers; and
- Four 138-kV loop-in / loop-out line cable circuits, located within an approximately 0.1-mi (0.2-km) long cable corridor from the Hampton Road substation to existing LIPA transmission lines located under Lawson Boulevard in Oceanside, New York.

This VIA primarily focuses on the onshore substation in the Village of Island Park and the Hampton Road substation in Oceanside. The submarine export cables will be entirely submerged underwater. The onshore export, interconnection, and loop-in / loop-out line cables will be entirely underground with the exception of the portion of interconnection cable route across an inland waterway (Barnums Channel) between the Village of Island Park and Oceanside, New York, which will utilize an above-water cable bridge.

Locations for the NY Project facilities are shown on **Figure I-1**.

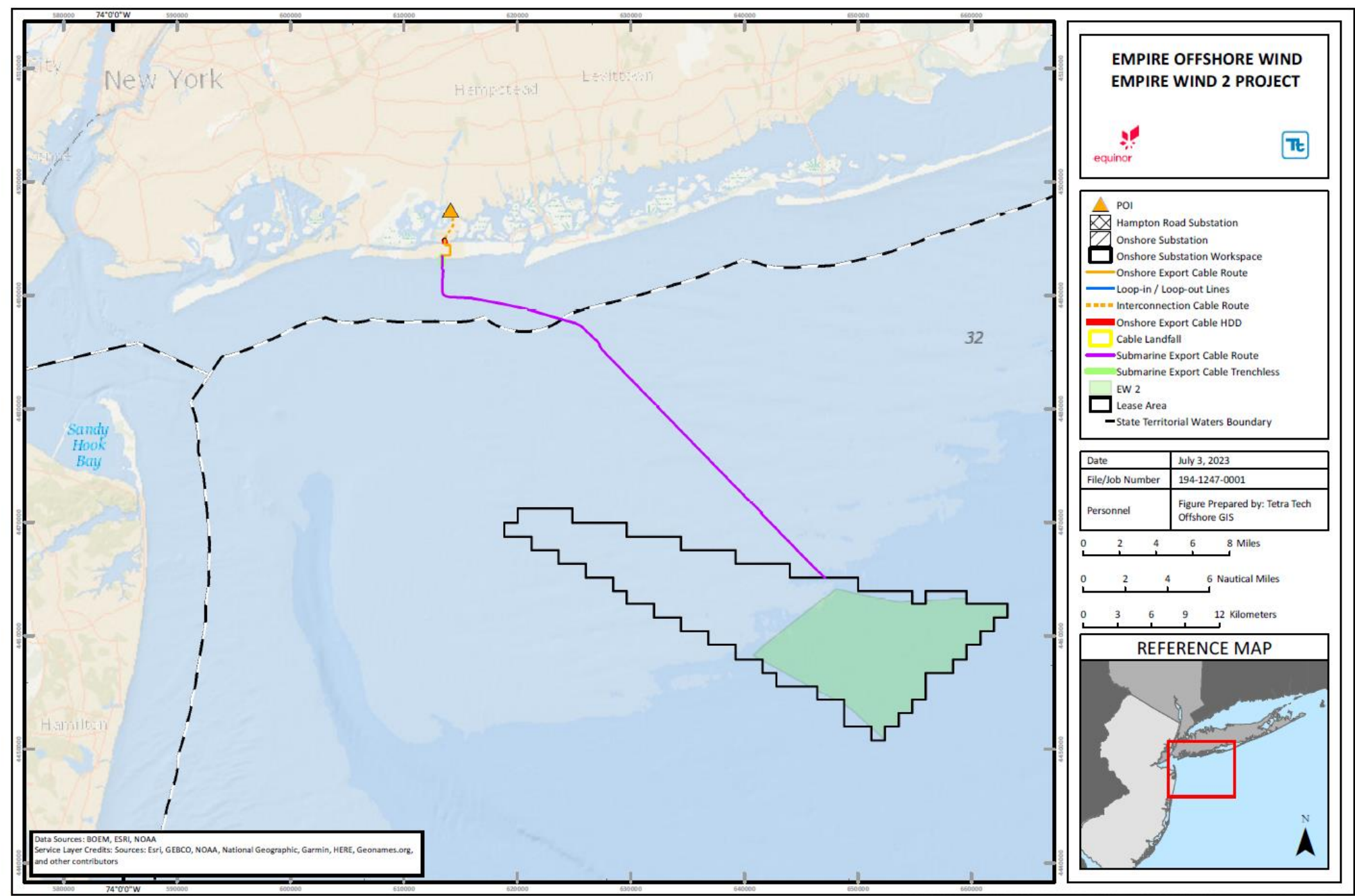


Figure I-1 EW 2 Project Overview Map

### I.2.1 Substation Conceptual Layouts

Two onshore substation facilities were evaluated for this study: the onshore substation and the Hampton Road substation.

The onshore substation site is located on Long Island in the incorporated Village of Island Park, in Nassau County, New York. The site is located on land that is currently developed with a restaurant and storage unit buildings. The site also includes some vegetation consisting of primarily grasses, shrubs, and patches of trees. The site is bounded by Long Beach Road to the east, Reynolds Channel to the south, and the Long Island Rail Road (LIRR) to the north and west.

The Hampton Road substation site is located on Long Island in Oceanside, in the Town of Hempstead. The site is located on land that is currently developed for industrial use and is comprised almost entirely of paved surface with some patches of grass. The site is bounded by LIRR tracks to the east, Daly Boulevard to the south, Hampton Road to the west, and more industrial development to the north.

Both substations will be designed to comply with applicable state and federal building codes, local rules, electrical standards, and environmental conditions to the extent practicable<sup>2</sup>. For the purposes of this VIA, conceptual onshore substation and Hampton Road substation layouts and design were developed. Empire is considering the development of a gas-insulated substations, which are typically designed to house certain electrical substation equipment within buildings. The designs used for this assessment were based on conservative assumptions.

Both substations will generally contain enclosed buildings and/or walled structures that will contain various equipment, such as switchgear, control equipment, batteries, reactive compensation equipment and harmonic filters, and a designated outside area to house outdoor equipment.

The onshore substation will be constructed within an approximately 5.2-ac (2.1-ha) portion of the property, with a 1.1 ac (0.4 ha) temporary workspace located between the western boundary of the parcel and LIRR tracks. The maximum height of the proposed facilities, including the site elevation and maximum building height, will be no more than 60 ft (18 m). Other outside structures will generally include:

- Outside electrical equipment including shunt reactors and transformers;
- Static masts;
- A 26-ft (8-m) high perimeter wall (this will be installed along the south perimeter of the site to screen views from the south, including from Long Beach Bridge);
- A 10-ft (3-m) high perimeter chain link security fence with a 2-ft (0.6-m) tall, barbed wire extension for a total height of 12 ft (3.7 m), although other types of fencing materials are being discussed and may include, but are not limited to, mesh security fencing and anti-scalable vertical rail fencing;
- A gravel maintenance road encircling the facility just inside the perimeter security fence; and
- A minimum of one drive-through gate and one walk-through gate providing access to the site.

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<sup>2</sup> In the event that certain standards cannot be met, variances or waivers will be sought through the appropriate regulatory mechanisms. **Exhibit 7: Local Ordinances** provides additional information on waivers of local ordinances that are being sought by the Applicant.

The Hampton Road substation will be constructed within an approximately 6.4 ac (2.6 ha) parcel. The maximum height of the proposed facilities, including any site elevation and maximum building height, will be no more than 75 ft (23 m). Other outside structures will generally include:

- Outside electrical equipment including transformers;
- A 10-ft (3-m) high perimeter chain link security fence with a 2-ft (0.6-m)-tall barbed wire extension for a total height of 12 ft (3.7 m) with the aforementioned onshore substation fencing materials also being considered;
- A gravel maintenance road from Daly Boulevard; and
- A minimum of one drive-through gate and one walk-through gate providing access to the site.

The size and configuration of the buildings and location of outside electrical equipment for each substation will depend on the environmental conditions and electrical constraints. The onshore substation conceptual layout used in the visual assessment is shown on **Figure I-2**. The Hampton Road substation conceptual layout used in the visual assessment is shown on **Figure I-3**.



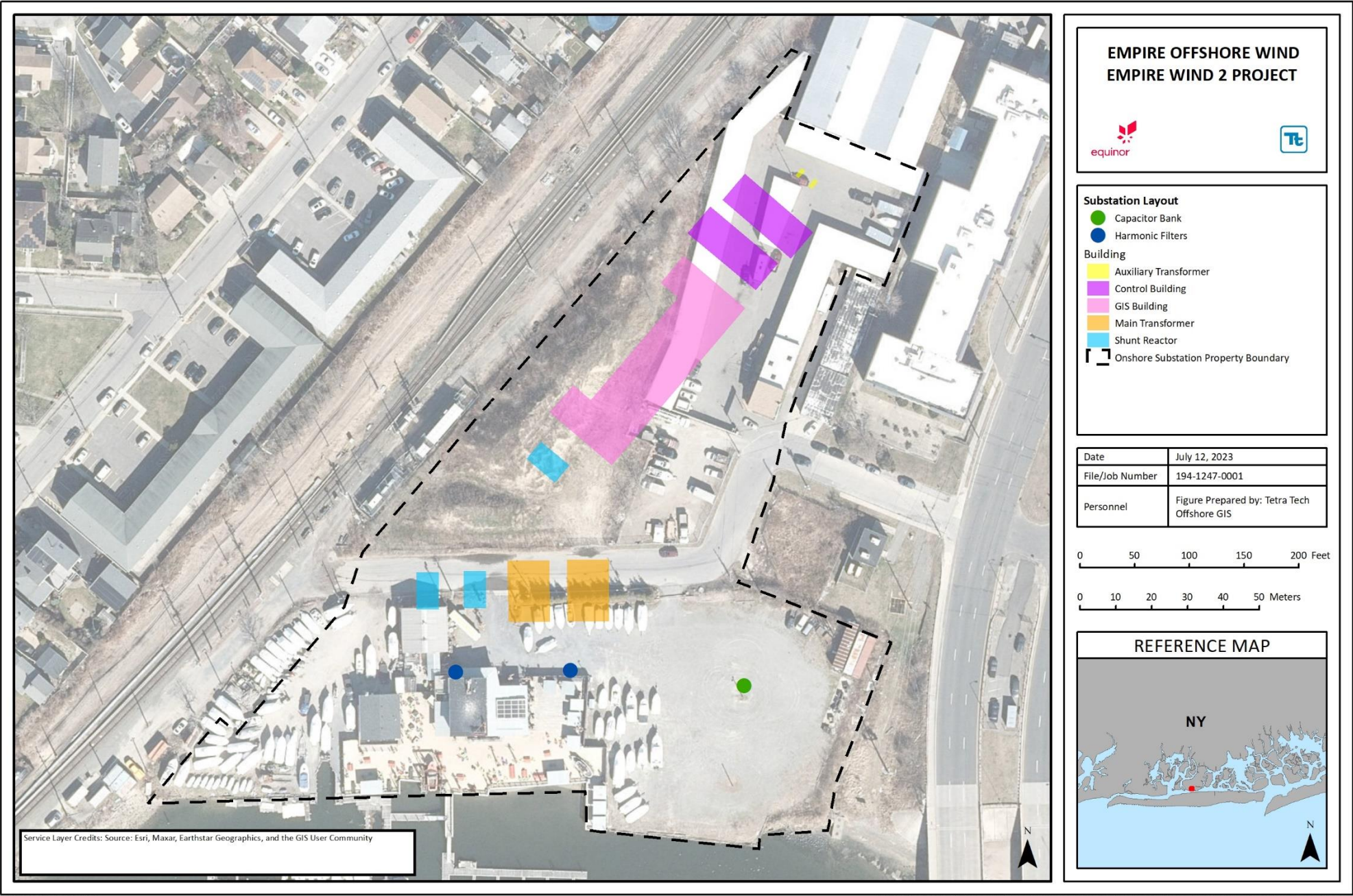


Figure I-2 Onshore Substation – Conceptual Layout



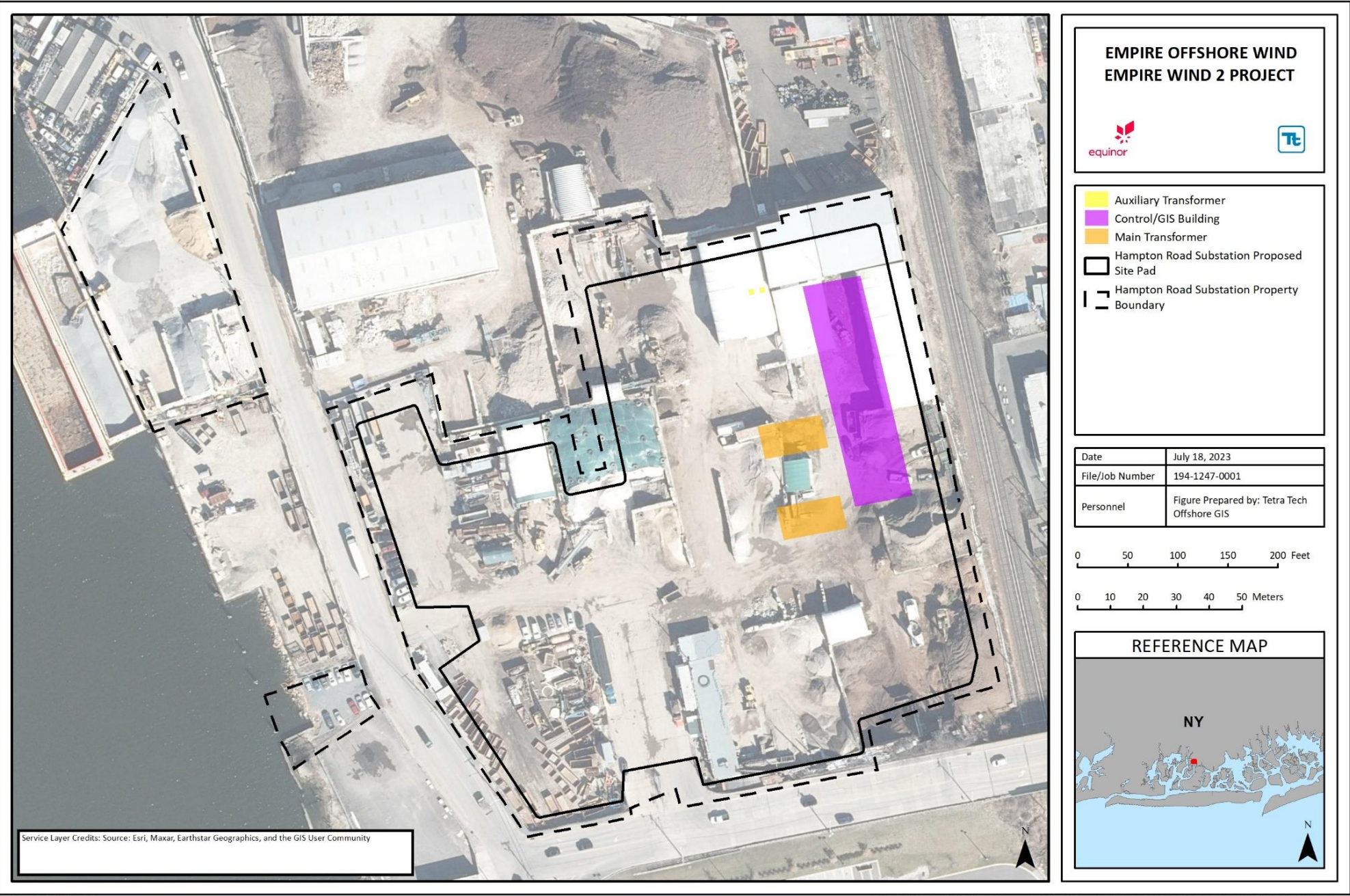


Figure I-3 Hampton Road Substation – Conceptual Layout

## I.2.2 Cable Bridge

The cable bridge crossing superstructure is proposed to be located at Barnums Channel, adjacent to the existing LIRR rail bridge, between Long Beach Road and Daly Boulevard. The crossing is proposed to be located in an industrial and commercial area and is bordered to the east by the existing LIRR corridor, to the east and south by the E.F. Barrett Power Station, to the west by a body of water, and to the north by commercial development which includes a gas station and parking lot. An existing pedestrian bridge on the E.F. Barrett Power Station property crosses above the existing LIRR right-of-way. Vegetation is limited to the banks on either side of Barnum Channel and includes scattered short grasses. The cable bridge is in a highly urbanized area that is characterized by commercial buildings and industrial facilities.

This trenchless crossing will consist of two cable tray transition areas to elevate the cables to the height of the proposed bridge superstructure. The total structure, inclusive of the two transition areas and the bridge superstructure, will be supported by approximately thirty-one piles at seven locations (e.g., pile caps). The proposed piles to support the transition areas and bridge superstructure consist of steel H-piles installed within 2-ft (0.61-m) diameter steel pipe piles. Multiple piles will be required at each pile cap location along the bridge. Within the crossed waterway there are planned to be up to five bent caps consisting of approximately twenty-three piles. The cable bridge superstructure will be constructed from a prefabricated steel truss system assembled offsite and set in place, and the superstructure will measure up to 25 ft (7.6 m) wide and 10 ft (3.0 m) tall, and span a length of approximately 200 ft (61 m). The crossing will be located adjacent to the existing LIRR railway bridge. The bridge superstructure is anticipated to have a low chord elevation up to 16 ft (4.8 m) NAVD88, similar to the adjacent railway bridge, with a maximum total height of 30 ft (9.1 m) NAVD88. A conceptual drawing of this cable bridge is provided in **Exhibit 5: Design Drawings**.

## I.3 Regulatory Setting

Several federal and state agencies have regulatory authority over the NY Project, based on the location of the different NY Project components.

### I.3.1 Federal and State

#### I.3.1.1 BOEM's National Environmental Policy Act Review

Assessments of visual resources are required to support BOEM's National Environmental Policy Act review process for an offshore wind energy lease. BOEM's *Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan* (BOEM 2016) indicate that the visual resource assessment should apply appropriate viewshed mapping, photographic simulations, and field inventory techniques to determine, with reasonable accuracy, the visibility of the proposed project to sensitive and scenic viewpoints. Empire is working with BOEM on the full offshore wind energy project, which includes a full COP that contains a visual analysis of the entire Empire Wind 1 and 2 Projects.

Therefore, to support the COP, Empire has coordinated with stakeholders that have an interest in visual resources, including BOEM, NPS, NYSHPO, NYSDEC, NJHPO, and NJDEP. As part of this outreach, Empire provided background information on the Empire Wind 2 Project, including the scope, as well as the methodology proposed to identify, inventory, and evaluate visual resources. Stakeholder feedback was used to inform the VSAs, as well as to confirm the methodology and baseline characterization, and to inform Empire's planning and mitigation measures.

### I.3.1.2 Coastal Zone Management Program

The National Coastal Zone Management Program (CZMP) was established as part of the Coastal Zone Management Act which was enacted in 1972 to address issues associated with continued growth in coastal zones (NOAA 2019). The CZMP comprehensively addresses the nation’s coastal issues through a voluntary partnership between the federal government and coastal and Great Lake states and territories and provides the basis for “protecting, restoring, and responsibly developing our nation’s diverse coastal communities and resources” (NOAA 2019). Permitting systems are established to control activities that affect coastal resources. Jurisdictions that oversee these permitting systems vary state-by-state but generally fall within one of two categories: state-only jurisdiction or shared state and local jurisdiction (Rath et al. 2018). New York shares permitting jurisdiction with local governments, with the New York State Coastal Management Program encouraging local communities to prepare and adopt a local waterfront revitalization program. New York State Department of State (NYS DOS) will need to confirm that the NY Project complies with the policies outlined in the New York State Coastal Management Program. **Appendix D Coastal Zone Management Consistency Statement** presents the Coastal Zone Management Consistency Statement with additional information on compliance with these policies.

### I.3.1.3 New York State Department of Environmental Conservation Policy DEP-00-2

New York State Department of Environmental Conservation (NYS DEC) Policy DEP-00-2: Assessing and Mitigating Visual Impacts provides guidance for the evaluation of visual impacts of proposed projects. Per this policy, scenic and aesthetic resources of statewide significance may be derived from one or more of the following categories:

- Properties on or eligible for inclusion in the National Register of Historic Places (NRHP) or State Register of Historic Places;
- State Parks;
- New York State Heritage Areas (formerly Urban Cultural Parks);
- State Forest Preserves;
- National Wildlife Refuges, State Game Refuges, and State Wildlife Management Areas;
- National Natural Landmarks;
- Sites on the National Park System, including Recreation Areas, Seashores, and Forests;
- National or State Wild, Scenic, or Recreational Rivers;
- Sites, areas, lakes, reservoirs, or highways designated or eligible for designation as scenic;
- Scenic Areas of Statewide Significance (SASS);
- State or federally designated trails, or those proposed for designation;
- Adirondack Park Scenic Vistas;
- State Nature and Historic Preserve Areas;
- Palisades Park;
- Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space Category; and
- National Heritage Areas.

The Applicant reviewed the presence of visually sensitive and aesthetic resources in the 4-mi (6.4-km) VSAs for the purposes of assessing the visual impacts and identifying Key Observation Points (KOPs). Significant aesthetic resources were identified in accordance with the NYS DEC’s Program Policy DEP-00-2 (NYS DEC 2019).



#### I.3.1.4 New York State Coastal Management Program: Policy 24 and 25

In 1982, the New York State Coastal Management Program (CMP) was created to establish the boundaries of the coastal area within which the CMP applies, to describe the organizational structure to implement the CMP, and to provide a set of statewide policies enforceable on all state and federal agencies that manage resources and coordinate actions along the State's coastline (NYC 2019a). New York CMP Policy 24 aims to prevent the impairment of SASSs identified by the CMP (NYS DOS 2017). Policy 24 outlines evaluation methods to determine whether a project would impact these resources and provides guidelines to comply with this policy. In this case, impairments to scenic resources are defined as:

- The irreversible modification of geologic forms;
- The destruction or removal of vegetation;
- The modification, destruction, or removal of structures, whenever the geologic forms, vegetation or structures are significant to the scenic quality of an identified resource; and
- The addition of structures, which because of siting or scale, will reduce identified views or which because of scale, form, or materials will diminish the scenic quality of an identified resource.

There are no SASSs identified within the NY Project Area. The closest SASS is located at the eastern end of Long Island, near Montauk (NYS DOS 2019).

Policy 25 aims to protect, restore, and enhance natural and human-made resources that contribute to the overall scenic quality of the coastal area (NYS DOS 2017). These resources are not identified as SASSs, though the same compliance guidelines and evaluation methods in Policy 24 apply to Policy 25.

The New York State CMP also encourages local communities to prepare and adopt local waterfront revitalization programs. These local programs provide a more detailed implementation of the State's program through local planning, zoning and review processes. There are no locally adopted waterfront revitalization programs applicable to the NY Project Area.

#### I.3.2 Local Land Use Plans and Guidance

Development of the onshore facilities in the NY Project Area will be guided by applicable land use plans, the substantive provisions of which will be applied by the Commission under Article VII. One land use plan with relevant guidelines and policies for visual resources was found for the NY Project Area: the Long Island South Shore Estuary Reserve Comprehensive Plan.

Originally implemented in 2001, The Long Island South Shore Estuary Reserve Comprehensive Management Plan is the result of The Long Island South Shore Estuary Reserve Act passed in 1993 creating the Long Island South Shore Estuary Reserve (Reserve). The Act also implemented the Long Island South Shore Estuary Reserve Act Council (Council) whose task was to design a Comprehensive Management Plan (CMP 2001) to protect the reserve and its inhabitants. This CMP emphasizes the importance of the Long Island South Shore Estuary Ecosystem and outlines actions necessary to preserve, protect, and enhance the natural, recreational, economic, aesthetic, and educational resources that the reserve provides. The Plan discusses various components such as implementing projects that create parks at the end of streets and in vacant lots, providing public parking, and providing benefits such as improved aesthetics and public access.

Local land use plans, including those which do not contain visual resources guidelines or policies, are discussed further in Section 4.10 of **Exhibit 4: Environmental Impacts**.

## I.4 Resource Inventory

A standard inventory and assessment approach that applied certain elements of the U.S. Bureau of Land Management (BLM) Visual Resource Management (VRM) system was used for this VIA (BLM 2018), which complies with the NYC DEP-00-2 policy (NYSDEC 2019). The BLM VRM system is widely used for a variety of projects and, with some modifications, has been applied successfully to projects that do not occur on lands under the jurisdiction of the BLM.

Key steps in the methodology include establishing a study area, inventorying visual resources within that study area, identifying sensitive viewing locations and KOPs<sup>3</sup>, conducting fieldwork to assess the existing visual character of the landscape and to inventory KOPs, creating visual simulations, and assessing impacts and mitigation. Additionally, DEP-00-2 guidance (NYSDEC 2019) provides a list of visual resources, which was searched for the NY Project.

The majority of the types of aesthetic resources of statewide significance defined in NYSDEC's Program Policy DEP-00-2 (NYSDEC 2019) are not found within the VSAs for the onshore substation or the Hampton Road substation. Within the 4-mile onshore VSAs, there are 17 total properties listed in the NRHP, and of those only a single listed site would have actual views of the NY Project. A full analysis of identified historic properties with potential views are discussed in **Appendix J**. Two identified State Parks (including Jones Beach State Park, which is also NRHP listed) would have no views. One national wildlife refuge (named wildlife management area) was identified with potential views; and one scenic pier was identified with no views. Additionally, three resources of statewide or regional significance were identified, two of which have potential views. Also, 91 locally important resources were identified, 36 of which had no views of the NY Project. **Table I-1** illustrates the scenic and aesthetic resources of statewide significance within the two identified onshore VSAs, associated with the onshore substation and the Hampton Road substation. Federal and state-designated resources are shown on **Figure I-4**; locally designated resources are listed in **Table I-1** but omitted from **Figure I-4** for graphic clarity.

**Table I-1 Scenic and Aesthetic Resources of Significance within the Onshore Substation and Hampton Road Substation Visual Study Areas**

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
<b>Properties Listed in the National or State Register of Historic Places a/</b>					
William Barkin House	X	X	Long Beach	0.7 (1.1)	No Views
Cobble Villa	X	X	Long Beach	0.8 (1.2)	Potential Views
Denton Homestead	X	X	East Rockaway	1.5 (2.6)	No Views
Pauline Felix House	X	X	Long Beach	0.9 (1.4)	No Views
Granada Towers	X	X	Long Beach	0.6 (0.9)	No Views

<sup>3</sup> Key observation points are discussed in Section I.4.6.

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility <i>c/</i>
Haviland-Davison Grist Mill	X	X	East Rockaway	1.8 (2.8)	No Views
House at 226 West Penn Street (Long Beach Historical Museum)	X	X	Long Beach	0.9 (1.6)	No Views
House at 251 Rocklyn Avenue	X	X	Lynbrook	2.2 (3.5)	No Views
House at 474 Ocean Avenue	X	X	Lynbrook	2.2 (3.6)	No Views
US Post Office - Long Beach	X	X	Long Beach	0.5 (0.9)	No Views
Samuel Vaisberg House	X	X	Long Beach	0.9 (1.4)	No Views
Jones Beach State Park, Causeway and Parkway System	X	X	Freeport	3.5 (5.6)	No Views
Rock Hall	X	-	Lawrence	3.9 (6.4)	No Views
US Post Office – Rockville Centre	X	X	Rockville Centre	2.3 (3.7)	No Views
73 Grove Street, House at	-	X	Lynbrook	2.9 (4.7)	No Views
Rockville Cemetery & Mariner's Monument	-	X	Lynbrook	2.5 (4.1)	No Views
George Summer Kellogg House	-	X	Baldwin	2.9 (4.8)	No Views

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
<b>State Parks</b>					
Hempstead Lake State Park	-	X	Town of Hempstead	3.1 (5)	No Views
<b>Urban Cultural Parks (now termed the Heritage Area System)</b>					
<i>None in Study Area</i>					
<b>State Forest Preserves</b>					
<i>None in Study Area</i>					
<b>National Wildlife Refuges, State Game Refuges and State Wildlife Management Areas</b>					
Long Island Wildlife Refuge (Lido Beach Wildlife Management Area)	X	X	Lido Beach	2.1 (3.3)	Potential Views
<b>National Natural Landmarks</b>					
<i>None in Study Area</i>					
<b>National Parks, Recreation Areas, Seashores, Forests</b>					
<i>None in Study Area</i>					
<b>Rivers Designated as National or State Wild, Scenic, or Recreational</b>					
<i>None in Study Area</i>					
<b>A site, area, lake, reservoir or highway designated or eligible for designation as scenic</b>					
Woodcleft Scenic Pier			Oceanside	2.2 (3.5)	No Views
<b>Scenic Areas of Statewide Significance</b>					
<i>None in Study Area</i>					
<b>State or federally designated trail, or one proposed for designation</b>					
<i>None in Study Area</i>					
<b>Adirondack Park Scenic Vistas</b>					
<i>None in Study Area</i>					
<b>State Nature and Historic Preserve Areas</b>					
<i>None in Study Area</i>					

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
<b>Palisades Park</b>					
<i>None in Study Area</i>					
<b>Bond Act Properties</b>					
<i>None in Study Area</i>					
<b>National Heritage Properties</b>					
<i>None in Study Area</i>					
<b>Other Resources of Statewide or Regional Significance b/</b>					
Bedell Creek Tidal Wetlands Area (SCA)	X	X	Oceanside	2.3 (3.7)	No Views
Lido Beach Tidal Wetlands Area (SCA)	X	X	Lido Beach	2.3 (3.7)	Potential Views
Nike Missile Site NY-29/30	X	X	Lido Beach	2.2 (3.5)	Potential Views
<b>Locally Important Resources b/</b>					
Atlantic Village Lands	X	-	Atlantic Village	3.4 (5.5)	No Views
Baldwin Park	X	X	Town of Hempstead	2.3 (3.6)	Potential Views
Barrett Park	-	X	Valley Stream	4 (6.4)	Potential Views
Bay Park	X	X	Bay Park	0.7 (1.1)	Potential Views
Bristol Park	X	X	Town of Hempstead	1.1 (4.3)	No Views
Cedarhurst Park	X		Cedarhurst	3.9 (6.3)	Potential Views
Clark Street Playground	X	X	Long Beach	0.9 (1.5)	Potential Views
Department Of Recreation Campus	X		Long Beach	0.4 (0.6)	Potential Views
East Atlantic Town Beach	X	X	Town of Hempstead	2.4 (3.9)	Potential Views
Georgia Avenue Park	X	X	Long Beach	2.1 (3.4)	No Views
Grant County Park	X	X	Hewlett	2.4 (3.9)	Potential Views
Hewlett Point Park	X	X	Town of Hempstead	1.2 (1.9)	Potential Views



Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
Kennedy Plaza	X	X	Long Beach	0.6 (1)	No Views
Leroy Conyers Park	X	X	Long Beach	0.4 (0.6)	Potential Views
Lido Beach District Park	X	X	Lido Beach	1.7 (2.7)	Potential Views
Lido Beach Town Park	X	X	Lido Beach	2.6 (3.6)	Potential Views
Lido Beach West Town Park	X	X	Lido Beach	1.6 (2.6)	No Views
Long Beach City Lands	X	X	Long Beach	0.2 (0.3)	Potential Views
Long Beach Dog Run	X	X	Long Beach	0.4 (0.6)	Potential Views
Long Beach Skateboard Park	X	X	Long Beach	0.4 (0.6)	Potential Views
Magnolia Playground	X	X	Long Beach	1 (1.6)	No Views
Malibu Town Park	X	X	Town of Hempstead	3.2 (5.2)	Potential Views
Margie Street Park	X	X	Town of Hempstead	1.9 (3)	Potential Views
Marina West Town Boat Launch	X	X	Lido Beach	3.3 (5.3)	Potential Views
Marine Nature Study Area	X	X	Town of Hempstead	1.4 (2.3)	No Views
Mayor George Landgarf Memorial Playground	X	X	Island Park	1 (1.6)	No Views
Memorial Park	X	X	East Rockaway	3.3 (5.3)	Potential Views
Mill River Complex Park	X	X	Rockville Centre	2.3 (3.7)	Potential Views
Nassau Beach County Park	X	X	Lido Beach	2.5 (4)	Potential Views
North Street Park	X	X	Lawrence	3.6 (5.8)	Potential Views

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
Oceanside Park	X	X	Town of Hempstead	1.3 (2.2)	No Views
Pacific Playground	X	X	Long Beach	1.2 (1.9)	No Views
Point Lookout Town Park	X	X	Town of Hempstead	3.7 (6.0)	Potential Views
Reynolds Channel Esplanade	X	X	Long Beach	0.6 (1)	Potential Views
Sands At Lido Beach Town Park	X	X	Town of Hempstead	2.4 (3.9)	Potential Views
Shell Creek Park	X	X	Island Park	0.5 (0.8)	Potential Views
Sherman Brown Park	X	X	Long Beach	0.3 (0.5)	Potential Views
Silver Lake County Park	X	X	Baldwin	4 (6.4)	Potential Views
Skateboard Park	X	X	Long Beach	0.4 (0.6)	Potential Views
Unnamed Local Park - Long Beach	X	X	East Atlantic Beach	2.3 (3.7)	Potential Views
East Rockaway Recreation Center	X	X	East Rockaway	2.5 (4)	Potential Views
Veterans Memorial Park - Long Beach	X	X	Long Beach	0.5 (0.8)	Potential Views
Wrights Field	X	X	Town of Hempstead	2.4 (3.9)	No Views
Long Beach City Lands (LRMA)	X	X	Long Beach	0.2 (0.3)	Potential Views
Long Island Water Lands (LRMA)	X	X	Barnum Island, Lakeview	0.9 (1.4)	Potential Views
Parkway Dr Baldwin Harbor	X	X	Baldwin	3.7 (6)	No Views
Curtis E. Fisher West	X	X	Lido Beach	3.6 (5.8)	Potential Views

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
Marina Fishing Pier					
Inwood Beach Club	X	-	Atlantic Beach	3.6 (5.8)	No Views
Atlantic Beach Club	X	X	Town of Hempstead	2.8 (4.5)	No Views
Neptune Boulevard Beach & Park	X	X	Long Beach	1.1 (1.7)	No Views
Atlantic Beach	X	-	Atlantic Beach	3.7 (6)	No Views
Long Beach	X	X	Long Beach	1 (1.6)	No Views
Nickerson Beach Park	X	X	Lido Beach	2.8 (4.6)	Potential Views
Sands Beach Club	X	X	Lido Beach	2.4 (3.9)	Potential Views
Lido Beach	X	X	Lido Beach	2.2 (3.6)	Potential Views
Nickerson Beach Campgrounds	X	X	Lido Beach	3.1 (5)	No Views
Lincoln Beach Boardwalk	X	X	Long Beach	1 (1.6)	No Views
Ocean Club	X	X	Long Beach	3.2 (5.1)	Potential Views
Atlantic Beach Boardwalk	X	-	Atlantic Beach	3.5 (5.6)	No Views
Clearwater Beach Club	X	-	Atlantic Beach	3.9 (6.3)	No Views
Lawrence Beach Club	X	-	East Atlantic Beach	3 (4.8)	No Views
Waterview Road Park	X	X	Barnum Island	0.2 (0.3)	No Views
Shell Harbor	X	X	Barnum Island	1.2 (1.9)	No Views
Vella's Marina	X	X	Oceanside	1.7 (2.7)	Potential Views
Harbor Isle Beach	X	X	Harbor Isle	0.5 (0.8)	Potential Views
Little Beach Village of Island Park	X	X	Island Park	0.5 (0.8)	No Views
Harbor Isle Marina	X	X	Harbor Isle	0.6 (1)	No Views

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility c/
Boathouse Marina	X	X	Harbor Isle	0.4 (0.6)	No Views
Andy's Marine Service (Marina)	X	X	Harbor Isle	0.3 (0.5)	Potential Views
Rockaway Hunting Club	X	X	Lawrence	3 (4.8)	Potential Views
Inwood Beach Club	X	X	Atlantic Beach	3.6 (5.8)	No Views
Trinity Cemetery	X	X	Hewlett	3.6 (5.8)	No Views
Baldwin Harbor Marine Center	-	X	Town of Hempstead	3.0 (4.8)	Potential Views
Brookside Preserve	-	X	Town of Hempstead	3.5 (5.6)	Potential Views
Lofts Pond	-	X	Town of Hempstead	2.7 (4.3)	No Views
Masone Beach Point	X	X	Island Park	1 (1.6)	Views
Greis Park	-	X	Lynbrook	3.2 (5.1)	No Views
Hicks Beach	X	X	Lawrence	2.1 (3.4)	Potential Views
Island Park Village Green	X	X	Island Park	0.2 (0.3)	Potential Views
Lido Beach Nature Area	X	X	Town of Hempstead	3.2 (5.3)	Potential Views
Long Beach Municipal Boat Launch	X	X	Long Beach	0.4 (0.6)	Potential Views
Milburn Pond Park	-	X	Town of Hempstead	3.2 (5.1)	Potential Views
Milburn Creek Park	-	X	Town of Hempstead	3.2 (5.1)	Potential Views
Morgan Days Park South	-	X	Rockville Centre	2.7 (4.3)	Potential Views
Long Beach	X	X	Long Beach	1.1 (1.8)	No Views
Melverne Dog Park	-	X	Village of Melverne	3.9 (6.2)	No Views
Oceanside Mini Park	X	X	Town of Hempstead	0.5 (0.8)	Potential Views
Pine Lake Preserve	-	X	Village of Melverne	3.6 (5.8)	No Views

Site	Falls within Onshore Substation VSA	Falls within Hampton Road Substation VSA	Location	Distance to NY Project mi (km)	NY Project Visibility <sup>c/</sup>
Tanglewood Preserve	-	X	Town of Hempstead	3.0 (4.8)	Potential Views
Whelan Field	-	X	Village of Melverne	3.9 (6.2)	No Views
Ocean Beach Park	X	X	Long Beach	1.1 (1.8)	No Views

Notes:

a/ Detailed assessment of Historic Resources is found in Appendix J, Analysis of Visual Effects to Historic and Architectural Properties.

b/ These are not considered resources of statewide significance as identified in VIA Inventory of Aesthetic Resources (NYSDEC 2019), however, they are important local resources and are included for the sake of completeness.

c/ Visibility as indicated in this column was determined by a combination of viewshed analyses, followed by site-specific investigation using aerial imagery and Google Earth and/ or Street View. Identified locally important resources listed visibility is based on the viewshed analyses conducted for the NY Project.



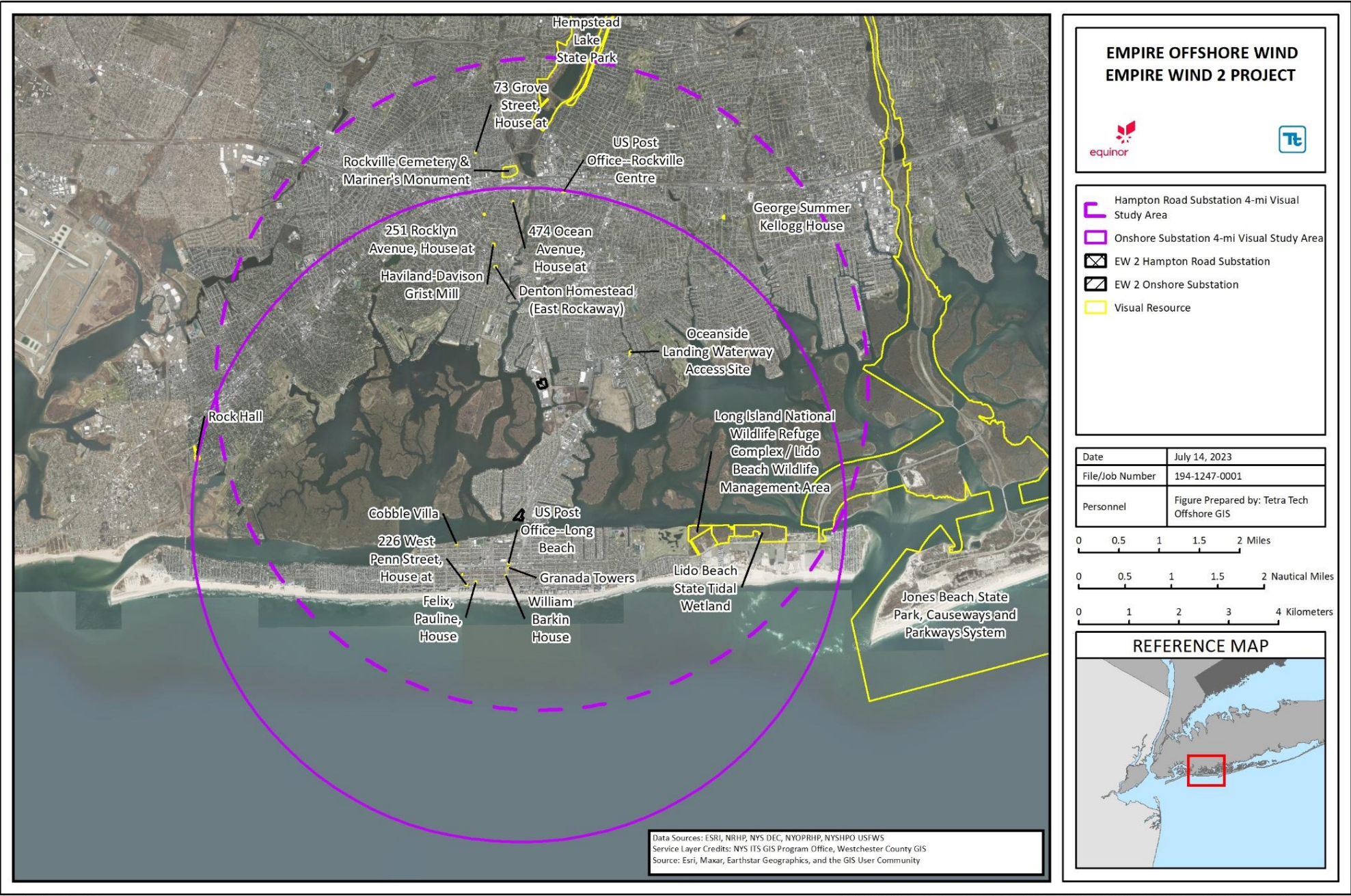


Figure I-4 Onshore Substations – Federal and State Designated Visual Resources

### I.4.1 Visual Study Area (VSA)

VSAs were identified for the NY Project onshore aboveground facilities: the onshore substation and the Hampton Road substation, based on locations from the onshore NY Project components that would potentially be visible and noticeable to the casual observer. The “casual observer” is considered to be an observer who is not actively looking or searching for the NY Project facilities but is engaged in activities at locations with potential views of the NY Project, such as hiking, driving on a scenic road, or relaxing near the water. The 4-mi (6.4-km) VSAs were used to review potential visibility of the onshore NY Project facilities. Typically, for an onshore substation proposed in a relatively flat area that is heavily developed, such as those proposed for the NY Project, a smaller VSA of 2 miles would be used to assess potential visibility. The use of a 4-mi (6.4-km) VSA for both the NY Project substations was determined because of the location of the onshore substation and Hampton Road substation adjacent to open water and Long Beach. The use of a larger VSA captures more of the eastern and western portion of Long Beach, where visual receptors may have unobstructed views toward the NY Project across open water (i.e., Reynolds Channel or Hewlett Bay).

### I.4.2 Viewshed Analysis

The viewshed analyses for the onshore substation and Hampton Road substation were derived using ESRI ArcGIS Pro 2.2.0 software with the Spatial Analyst extension to process 10 m Digital Elevation Models (DEMs) based on the National Elevation Dataset. For the onshore substation, the viewshed was developed from the perimeter of the onshore substation site looking out using the tallest proposed building height of 60 ft (18 m)<sup>4</sup> and perimeter fencing height of 7.5 ft (2.3 m)<sup>5</sup> to determine areas with potential visibility. For the Hampton Road substation, the viewshed was developed from the site perimeter looking out using the tallest proposed building height of 75 ft (23 m). Areas with potential visibility were then further evaluated for both substations using aerial imagery to define Key Observation Points (KOPs). The site perimeter and tallest onshore building heights were used for a worst-case scenario, as each substation layout is conceptual; the substation facility layouts will most likely change (become more refined) during final design. Viewsheds analyzed from the site perimeter provide the most conservative indication of potential visibility and were therefore used in the onshore viewshed analyses. The onshore viewshed analyses used building footprints of Nassau County, New York and LANDFIRE existing vegetation height data to identify areas within the VSA where potential screening may be provided by buildings and vegetation. Potential visibility results based on the viewshed analysis that was conducted for the onshore substation and the Hampton Road substation are shown in **Figure I-5** and **Figure I-6**, respectively.

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<sup>4</sup> The use of 60 ft (18 m) building height was based on the tallest proposed building used for the conceptual substation layout.

<sup>5</sup> A 10-ft (3-m) high perimeter chain link security fence with a 2-ft (0.6-m) tall barbed wire extension for a total height of 12 ft (3.7 m) fence will be used; however, a 7.5 ft fencing height represented for modeling purposes.



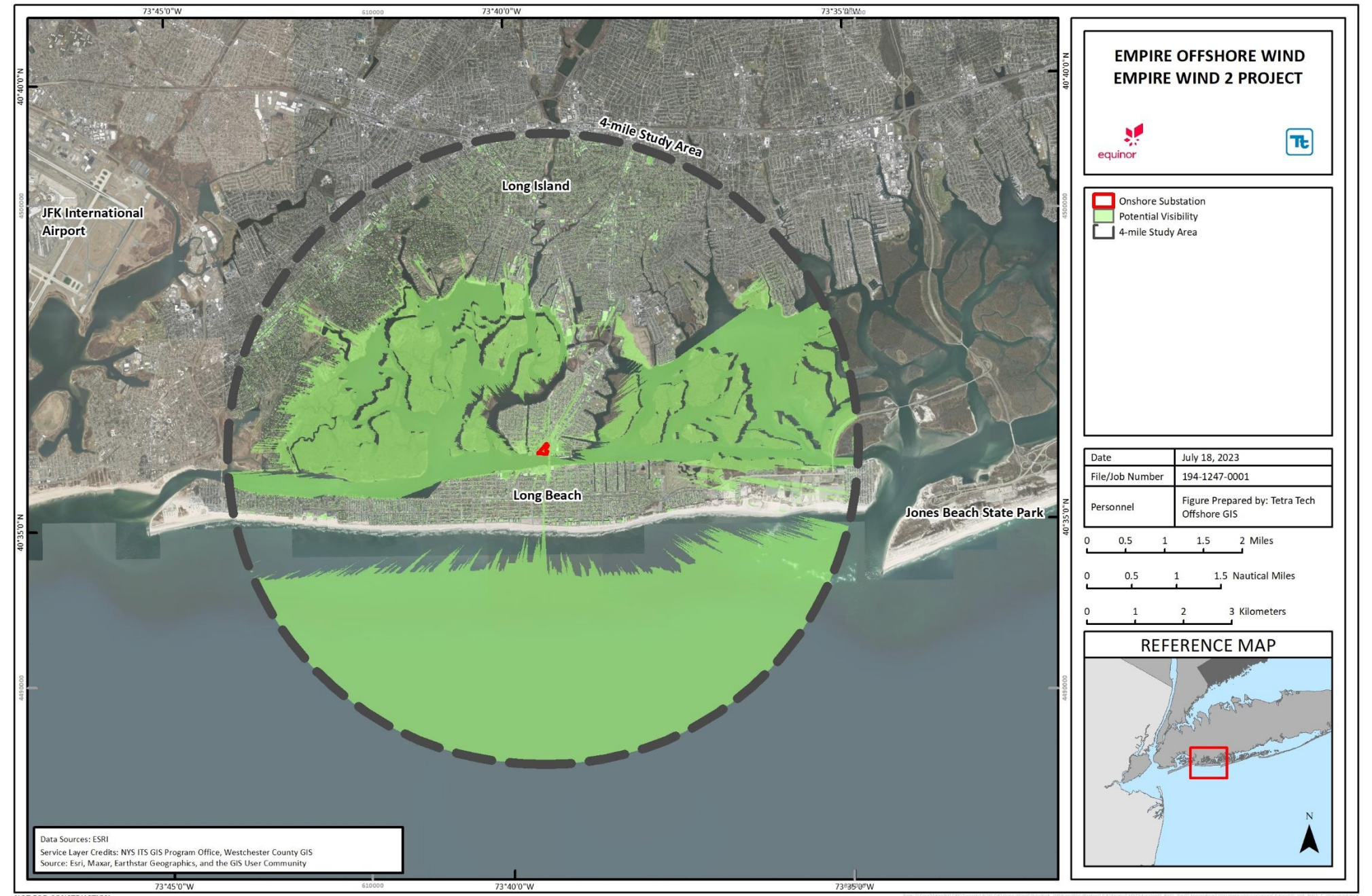


Figure I-5 Onshore Substation Conceptual Layout Refined Viewshed Analysis



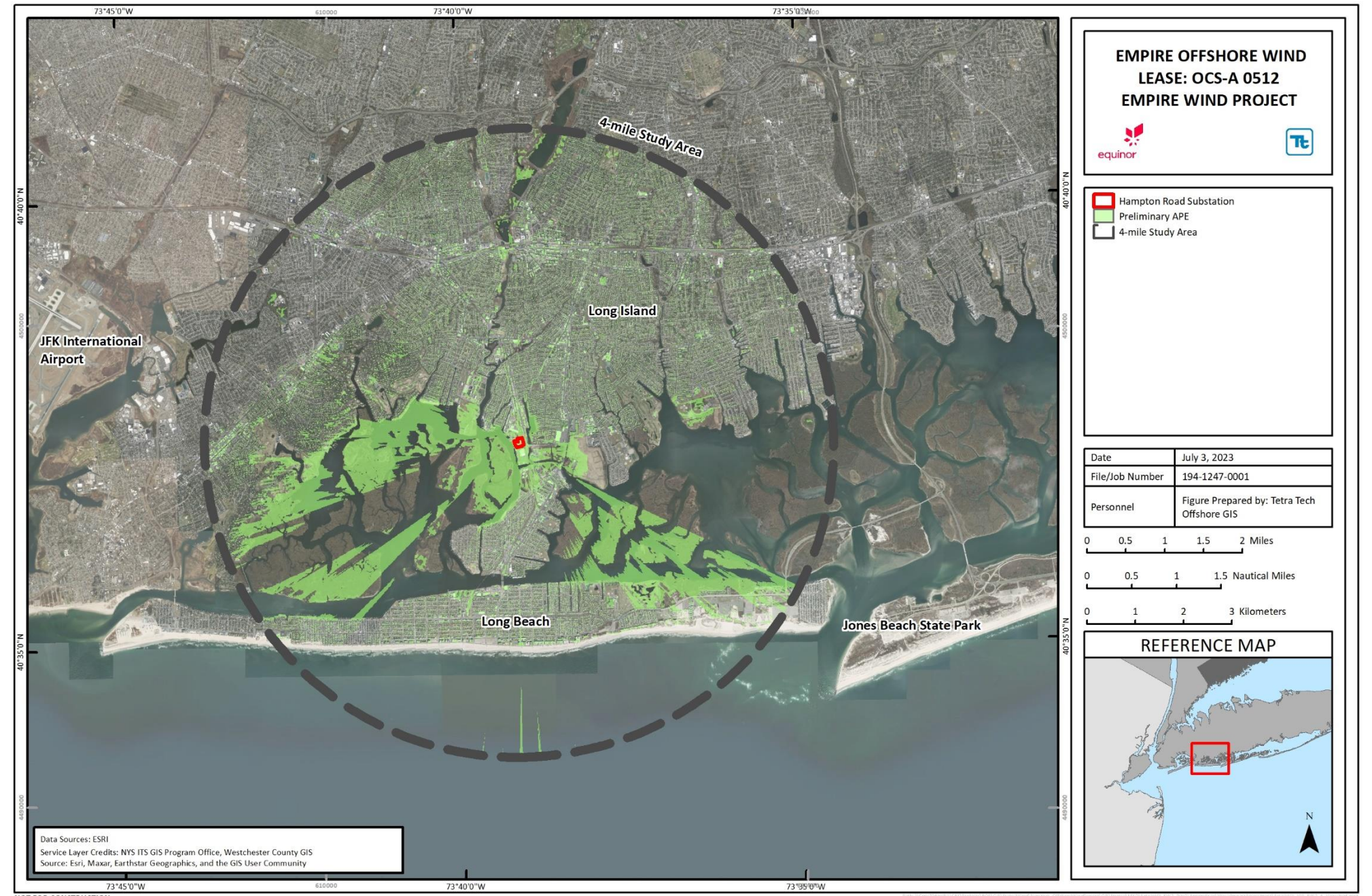


Figure I-6 Hampton Road Substation Conceptual Layout Refined Viewshed Analysis

### **I.4.3 Inventory Components**

The inventory of visual resources included the existing landscape and scenery and the viewers and KOPs within the VSAs. These visual components are described below.

#### **I.4.3.1 Landscape and Scenery**

Scenery is the aggregate of features that give character to the landscape (BLM 1984). Typically, every landscape comprises varying characteristics of landform, vegetation, existence of water, color, scarcity, adjacent scenery, and cultural modifications, all of which combine to exhibit landscape character (BLM 1986a). Existing conditions in the VSAs were evaluated by means of aerial photography and field reconnaissance to determine where and to what extent cultural modifications have affected natural settings. Existing conditions observed during the inventory processes are described in Section I.4.3.3.

#### **I.4.3.2 Sensitive Viewers/Key Observation Points (KOPs)**

The term “sensitive viewers” refers to specific user groups associated with various land uses that have a sensitivity to landscape change, and therefore could be adversely affected by the construction and operation of the NY Project. In this regard, viewing locations are typically associated with key travel routes, recreation areas, and residential areas. KOPs represent critical or typical viewpoints within, or along, an identified viewing location and are used to assess the visual effect of a proposed project. The sensitivity of viewers at each KOP is based on the type of use and expected concern for aesthetics. Identifying groups of individuals who will likely be sensitive to visual changes is an important part of the visual assessment process and helps to define specific locations from which to assess changes to the visual character of the landscape. The inventory considered: 1) the most critical viewpoints (i.e., views from communities, residential areas, and recreational areas); 2) views from scenic areas specifically identified in local planning documents; and 3) views that best represent the general area or landscape setting.

#### **I.4.3.3 Field Visits**

Field visits to each substation VSA were conducted on September 2, and February 5, 2021 to assess the existing visual character of the landscape and to inventory current conditions at a set of sensitive viewing locations. The field inventory included three components: (1) identification and photo-documentation of sensitive viewing locations; (2) classification of visual sensitivity at the locations visited; and (3) description of expected NY Project visibility from locations visited. Following the field inventory, a subset of the sensitive viewing locations was selected as representative KOPs for use in the impact evaluation.

A panorama (overlapping series of photos) was captured at each location visited in the field. **Attachment I-1 Visual Resource Inventory** provides the locational details for photographs taken during the field visit and a description of the existing views for the locations initially identified as potentially sensitive within the VSAs.

### **I.4.4 Summary of Inventory Results**

The following sections describe the existing environment in the VSAs. Existing conditions were evaluated by means of aerial photography and field reconnaissance to determine where modifications have affected natural settings.

#### **I.4.4.1 Regional Landscape Character/Existing Conditions**

The existing landscape character provides the context for assessing the effects of changes to the landscape. Landscape character is identified and described by the combination of the scenic attributes that make each landscape identifiable or unique. A region’s landscape character creates a sense of place and describes the visual



image of an area. To assess impacts to the landscape's visual character and quality, it is important to establish the context for the visual environment at both a regional level and at a project-specific level.

Environmental Protection Agency Level III ecoregions of New York were used to develop a description of the existing landscape character within the VSAs. Ecoregions provide a convenient foundation for describing visual character at the regional level because they are defined based on multiple elements similar to those used in the BLM's VRM for inventorying and assessing scenic quality (BLM 1986a). These factors include physiographic elements of landform, vegetation, and water, and cultural modifications, defined as human-made modifications to the landscape. Level III ecoregions of New York that cross the VSAs include the Atlantic Coastal Pine Barrens ecoregion. Landscape conditions within this Level III ecoregion is discussed below.

### **Atlantic Coastal Pine Barrens**

This ecoregion is characterized by gently undulating, low-elevation coastal plain and distinguished by sandy, droughty, infertile soils, and extensive pine-oak woodlands (Woods et al. 2007). Streams occur throughout this ecoregion, which are fed by a large aquifer of fresh water supplied by precipitation. Vegetation type consists of pine-oak forests in upland areas and include pitch pines, shortleaf pines and various oak species. Low-lying areas support white cedar swamps, swamp hardwoods, pitch pine lowlands, and mineral-poor fens. Cultural modifications in this ecoregion include residential and commercial development and agriculture.

#### **I.4.4.2 Onshore NY Project Area**

The topographic character of the NY Project Area ranges from approximately 0 ft (0 m) above mean sea level (aMSL) to 38.25 ft (11.66 m) aMSL elevation NAVD88.

### **Onshore substation**

The proposed onshore substation site is an approximately 5.2 ac (2.1 ha) parcel located adjacent to Long Beach Road. The POI, which will support the interconnection of the NY Project to the existing electrical grid, is north of the onshore substation, at the Hampton Road substation. The proposed onshore substation parcel is currently developed with several commercial businesses. Areas that are undeveloped are vegetated primarily with low growing weeds, grasses and shrubs, and scattered trees. The onshore substation site is surrounded by buildings to the north and is located in an urban area characterized by a mixture of industrial, commercial, and residential development.

### **Cable Bridge**

The proposed cable bridge will be located at an inland waterway crossing (Barnums Channel) between Island Park and Oceanside, New York. The crossing will be located adjacent to the existing LIRR railway bridge. An existing pedestrian bridge on the E.F. Barrett property crosses above the existing LIRR corridor. Vegetation is limited to the banks on either side of Barnum Channel and includes scattered short grasses. The proposed cable bridge location is in a highly urbanized area that is characterized by commercial buildings and industrial facilities.

### **Hampton Road Substation**

The proposed Hampton Road substation site is approximately 6.4 ac (2.6 ha) parcel located at the corner of Daly Boulevard and Hampton Road. The Hampton Road substation will provide the POI for the NY Project, for interconnection in accordance with electric grid interconnection standards. The site is bounded by Hampton Road to the west, Daly Boulevard to the south, and the LIRR and a residential development to the east. North of the site is predominately used as an industrial area. The Hampton Road substation parcel is currently unoccupied and consists of a vacant lot with mixed groundcover of either gravel or degraded asphalt with little to no vegetation.

### **I.4.5 Viewer Types and Characteristics**

This section provides a general description of the key viewer groups in the VSAs who might experience the visual effects of the NY Project. Distinctions among user groups and their expected sensitivity to landscape changes, based on activity types and viewing characteristics, are standard components of a VIA.

Viewer concern can vary depending on the characteristics and preferences of the viewer group. For example, residential viewers are expected to have high concern for changes in views from their residences. Motorists' concern generally depends on when and where travel occurs and the type of travel involved (e.g., commuting vs. recreational travel).

Scenic views designated in land use plans adopted by federal, state, or local government entities typically formalize a widely recognized visual value of a resource and the public's desire to protect that value (e.g., a designated wilderness or scenic area). Where such official designated lands exist, the public expectation is that the view at the location or of the identified resource will be preserved, and the viewer concern is considered high.

In general, the types of viewers present within the VSAs are classified as local residents, travelers, or tourists and recreational users. The following discussion summarizes the composition of these groups and their characteristics that are relevant to the visual assessment.

#### **I.4.5.1 Local Residents**

The local residential viewer groups consist of people who live within the VSAs. Many local residents are present on a year-round basis, whereas some have permanent residences elsewhere and are seasonal residents. Generally, they view the landscape from their yards and homes, and often from places of employment while engaged in daily activities. Residents of primary interest for the analysis are located in residential neighborhoods close to the onshore NY Project components.

Residents' sensitivity to visual quality can be variable and may be tempered by the visual character and setting of their neighborhoods. For example, residents with a view of existing commercial or industrial facilities may respond differently to landscape changes associated with NY Project facilities than those with a view of open ocean or forested areas. It is assumed, however, that local residents are generally familiar with the local landscape and may be more sensitive to changes in particular views that are important to them.

#### **I.4.5.2 Travelers**

Travelers passing through an area typically view the landscape from motor vehicles on their way to work or other destinations. Travelers include daily commuters and people engaged in various types of business or personal travel.

Commuters traveling within the VSAs view the landscape from motor vehicles and/or the commuter LIRR corridor on their way to work or other business destinations. Commuting activity occurs all throughout the VSAs since much of the area is developed and in or near New York City, a major metropolitan area. Commuters generally do not tend to stop along their travel routes, have a relatively narrow field of view because they are focused on road and traffic conditions, and are destination oriented. Passengers in commuter vehicles would have greater opportunities for prolonged off-road views toward landscape features and, accordingly, may have greater perception of changes in the visual environment.

Through travelers are typically moving, have a relatively narrow field of view, and are destination oriented. Generally, drivers in this group are focused on driving and on the road and traffic conditions but have the

opportunity to observe roadside scenery from time to time. Both drivers and passengers may have greater opportunities for prolonged views toward landscape features and may take more notice of changes in the visual environment.

### I.4.5.3 Tourists and Recreational Users

This viewer group includes local and seasonal residents engaged in recreational activities, and tourists and recreational users visiting from outside of the local area. These users can be involved in outdoor recreational activities at beaches, parks and other developed recreational facilities or in undeveloped natural settings such as forests or preserves. Tourists and recreational users come to the area for the purpose of experiencing its cultural, scenic, and/or recreational resources. They may view the landscape while traveling to these destinations on local roads, LIRR, ferries, or from the sites themselves.

The recreational user group includes those involved in active recreation (e.g., bicyclists, hikers, walkers, joggers, swimmers, recreational boaters) and those involved in more passive recreational activities (e.g., lounging at the beach, picnicking, sightseeing, and wildlife observation). For some of these viewers, scenery is a very important part of their recreational experience, and recreational users often have continuous views of landscape features over relatively long periods of time. Most recreational viewers will only view the surrounding landscape from ground-level or water-level vantage points. Recreational users' sensitivity to visual quality and landscape character will be variable, depending on their reason for visiting the area. However, recreators are generally considered to have relatively high sensitivity to scenic quality and landscape character.

### I.4.6 Key Observation Points

Criteria used to select KOPs for onshore NY Project components included:

- Locations representing the most critical viewpoints within the onshore substation and Hampton Road substation VSAs (i.e., views from communities, residential areas, or recreational areas, scenic areas specifically identified in planning documents); and
- Geographic distribution representing locations closest to the onshore substation and Hampton Road substation and at various distances within the VSA.

#### I.4.6.1 Onshore Substation

Based on the results of the field visit (see Section I.4.3.3), a total of four KOPs within the onshore substation VSA were selected for detailed study.

**Table I-2** includes a list of KOPs within the VSA and potential visibility of the NY Project based on the results of the viewshed (see Section I.4.2). KOPs within the onshore substation VSA are shown in **Figure I-7**. Photographic simulations were created for four KOPs.

**Table I-2 List of Key Observation Points within the Onshore substation Visual Study Area**

Map ID Number	Name	Location	Resource Type	Distance to Project Site mi (km)	Project Visibility
1	Quebec Road/Residential Neighborhood	Island Park, NY	Residential/Travel Way	0.07 (0.11)	Partially Visible b/
2	Long Beach Bridge	Island Park, NY	Travel Way	0.09 (0.15)	Visible

Map ID Number a/	Name	Location	Resource Type	Distance to Project Site mi (km)	Project Visibility
3	Long Beach Skate Park	Long Beach, NY	Public Recreation	0.43 (0.69)	Partially Visible
4	Island Park Station	Island Park, NY	Travel Way/Residential	0.19 (0.31)	Partially Visible

Note:

a/ Map ID numbers for the EW 2 onshore substation site corresponds to the map shown on Figure I-7.

b/ Viewpoint is not visible from the public right-of-way (see simulations in Appendix I); however, there may be partial views from residences adjacent to the substation site.

### I.4.6.2 Quebec Road/Residential Neighborhood

This KOP is located at a dead end along Quebec Road in the Village of Island Park, Nassau County, New York. This residential neighborhood is located approximately 0.07 mi (0.11 km) west of the onshore substation site (at its closest point) and is currently bounded by the Wreck Lead Channel to the south, LIRR, Pop's Seafood Shack and Grill to the east, and residential development to the north and west.

#### Existing View

This KOP is within the Atlantic Coastal Pine Barrens ecoregion. The landscape surrounding this location is typical of this ecoregion and is characterized by gently undulating low-elevation coastal plain with sandy, droughty, infertile soils with extensive pine-oak woodlands. Views from this location primarily include residential development in the foreground, with residential power lines extending above vegetation and fencing crisscrossing the ground. Vegetation consists of landscaping shrubs and grasses, including lawns and trees associated with residential development. Human-made modifications include residences, paved roads, and power lines. From this KOP, views east toward the onshore substation site are mostly to completely screened by foreground vegetation and topography.

#### View with the NY Project

This location represents residential neighborhoods and travel ways. Views toward the onshore substation site from this location will vary from mostly to completely screened by vegetation and/or residential development. From Quebec Road, views will be screened by existing development and vegetation which block views towards the proposed substation (see simulation in **Appendix I**). Based on review of aerial imagery, from residential backyards adjacent to LIRR and the substation, views are anticipated to be mostly screened by vegetation. For residential backyard viewers, the upper portions of the substation building may be visible above existing vegetation. However, the portion of the potential building that is visible will be seen in the context of residential development, power lines, and a commuter railroad line that splits the two areas. Because of the effective screening by development, the onshore substation site will appear as a subordinate feature in the landscape setting. As such, the NY Project will introduce no to weak visual contrast in this area. Views toward the onshore substation site from residences farther west and north in the residential neighborhood are anticipated to be completely screened by residential development and will experience no visual contrast at this KOP.



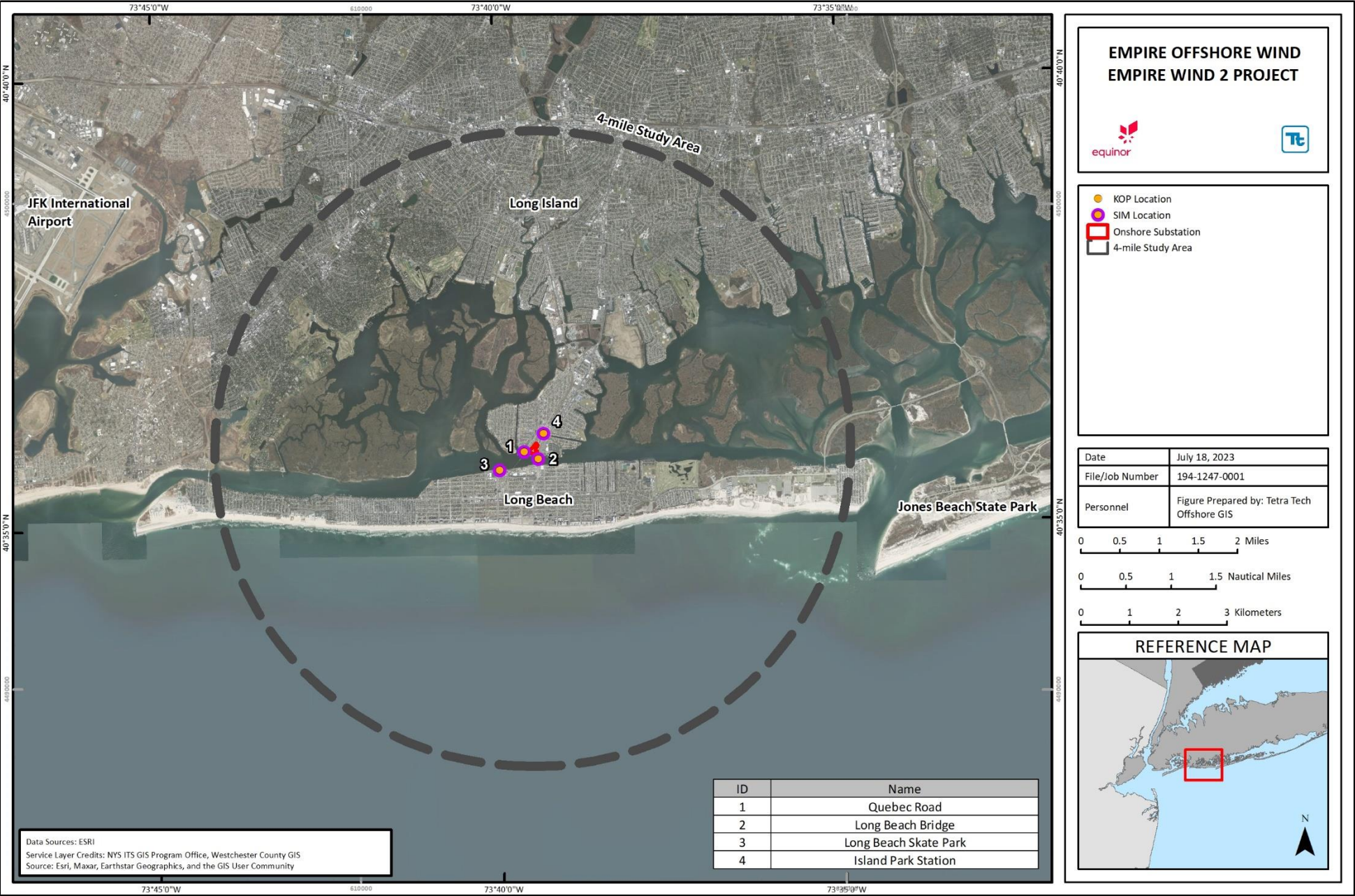


Figure I-7 Key Observation Points within the Onshore Substation Visual Study Area

### **I.4.6.3 Long Beach Bridge**

This KOP is located along Long Beach Boulevard at the Long Beach Bridge, which crosses the Wreck Lead Channel. This location is approximately 0.09 mi (0.15 km) east of the onshore substation and is bounded by the Channel on the east and west, Island Park, New York to the north, and Long Beach, New York to the south.

#### **Existing View**

This KOP is within the Atlantic Coastal Pine Barrens ecoregion. The landscape surrounding this location is typical of this ecoregion and is characterized by a gently undulating low-elevation coastal plain with sandy, droughty, infertile soils with extensive pine-oak woodlands. Views from this location include Wreck Lead Channel and commercial, industrial, and residential development along the shoreline of Island Park and Long Beach in the foreground/middleground; developed features include marinas, parks, and residential and commercial development along the Channel. Vegetation includes low grasses, dispersed trees mainly associated with residential development, and lawn or short grass covering the parks and commercial/industrial development.

#### **View with the NY Project**

This location represents travelers along the Long Beach Boulevard Bridge. Views toward the onshore substation site are open. The large geometric forms and light grey color of the proposed perimeter wall and buildings will contrast with the dark green, irregular forms of the exiting vegetation. The onshore substation will be seen in the context of an existing storage facility, streetlights, and utility lines in the foreground. Although existing structures and utilities are visible in the view, the NY Project will be a dominant feature from this view due to the proximity of the onshore substation to the viewpoint and the large scale and light color of the wall and buildings. As such, it is anticipated that the NY Project will introduce strong visual contrast in unobstructed views from the southeast, particularly from north-facing viewers on the Long Beach Road bridge.

### **I.4.6.4 Long Beach Skate Park**

This KOP is located at the skate park in the Long Beach Park Area located adjacent to the Wreck Lead Channel west of Long Beach Boulevard in Long Beach, New York. This location is approximately 0.43 mi (0.69 km) southwest of the onshore substation and is bounded by Wreck Lead Channel to the north and recreation, residential, and industrial/commercial development to the south, east, and west.

#### **Existing View**

This KOP is within the Atlantic Coastal Pine Barrens ecoregion. The landscape surrounding this location is typical of this ecoregion and is characterized by a gently undulating low-elevation coastal plain with sandy, droughty, infertile soils with extensive pine-oak woodlands. Views from this location include Island Park and Wreck Lead Channel in the foreground and development along the shoreline and surrounding this location in the foreground/middleground; developed features include residential, park and commercial development. Vegetation includes low grasses, trees associated with residential development and lined along streets, and lawn or short grass covering the parks and commercial/industrial development.

#### **View with the NY Project**

This location represents recreational viewers associated with the skate park and other park facilities in this area, including the residential areas surrounding the park. For this view, the onshore substation buildings appear to have a similar form and scale to the existing train bridge structure which is currently dominant along the Wreck Lead Channel (see simulations in **Appendix I**). The upper portion of the proposed onshore substation



buildings will be visible but will be seen in the context of existing development, including the train bridge, various structures, and power lines. The onshore substation buildings will be comparable in height and scale to the existing train bridge in the foreground. At a distance of 0.43 mi (0.69 km), the onshore substation buildings will appear as a co-dominant feature. As such, the NY Project will introduce moderate visual contrast at this KOP.

#### I.4.6.5 Island Park Station

This KOP is located at the Island Park Train Station in Island Park, New York located between Long Beach Road and Austin Boulevard. This location is approximately 0.19 mi (0.31 km) south of the onshore substation site and is bounded by residential homes to the north and recreation, residential, and industrial/commercial development to the south, east, and west.

#### Existing View

This KOP is within the Atlantic Coastal Pine Barrens ecoregion. The landscape surrounding this location is typical of this ecoregion and is characterized by a gently undulating low-elevation coastal plain with sandy, droughty, infertile soils with extensive pine-oak woodlands. Views from this location include Island Park in the foreground; developed features include residential and commercial development. Vegetation includes low sparse grasses and trees associated with commercial and residential development and lined along streets.

#### View with the NY Project

This location represents travelers and residential viewers associated with the train station and nearby residences. Views toward the onshore substation site are screened by existing buildings. As such, the NY Project will introduce no visual contrast at this KOP.

#### I.4.6.6 Hampton Road substation

**Table I-3** includes a list of KOPs within the Hampton Road substation VSA and potential visibility of the NY Project based on the results of the viewshed (see Section I.4.2). KOPs within the Hampton Road substation VSA are shown in **Figure I-8** Photographic simulations were created for two KOPs; refer to **Attachment I-3**.

**Table I-3 List of Key Observation Points within the Hampton Road substation Visual Study Area**

Map ID Number a/	Name	Location	Resource Type	Distance to Project Site mi (km)	Project Visibility
3	Residential Neighborhood / Oceanlea Drive	Oceanside, NY	Residential and Travel Way	0.2 (0.3)	Visible
9	Woodmere Dock	Hewlett Neck, NY	Public Recreation and Residential	2.5 (4.0)	Partially Visible
10	Masone Point Beach / Residential Neighborhood	Oceanside, NY	Public Recreation and Residential	1 (1.6 m)	Partially Visible

Note:

a/ Map ID numbers for the EW 2 Hampton Road substation site corresponds to the map shown on Figure I-8.

b/ Viewpoint is not visible from the public right-of-way (see simulations in Appendix I); however, there may be partial views from residences adjacent to the substation site.

#### **I.4.6.7 Residential Neighborhood/Oceanlea Drive**

This KOP is located on the edge of a residential neighborhood in Oceanside, New York. This location is approximately 0.2 mi (0.3 km) northeast of the Hampton Road substation site and is bounded by single-family residential homes to the north and east, a narrow portion of Barnums Channel to the west, and attached multi-family housing to the south. The Hampton Road substation site would be located southwest of the KOP and seen behind the open water of the channel, a roadway—Lawson Boulevard—lined by commercial and light industrial properties, and a railroad corridor.

##### **Existing View**

The landscape surrounding this location is characterized by a level, low-elevation coastal plain with sandy, droughty, infertile soils dominated by gridded residential neighborhoods broken up by the irregularly scattered waterways of Hewlett Bay and developed commercial transportation thoroughfares. Views from this location include Barnums Channel and residential fencing in the foreground; developed features include residential and commercial development, including the rear side of a long, low commercial building across the Channel. Vegetation includes sparse tall grasses along the edge of the waterway in the foreground and riparian trees (defoliated at the time of site photography) clustered along the southern edge of Barnums Channel.

##### **View with the NY Project**

This location represents residential viewers and travelers associated with the neighborhood. The Hampton Road substation will be partially screened by existing vegetation and existing industrial buildings, such as warehouses, bulk petroleum storage, and manufacturing facilities. The large horizontal, rectangular forms and light grey color of the proposed building will be similar to the white and grey tones of the existing buildings and tents on site and nearby. The texture of the proposed building contrasts in texture as the proposed building appears smooth compared to the rougher texture of the existing buildings. The Hampton Road substation will be seen in the context of other industrial buildings but could be noticed because the Hampton Road substation GIS building may be slightly taller than the existing buildings immediately in front of the substation in the foreground. Although existing development and utilities are visible in the view, due to the close viewing distance and the scale of the facility it is anticipated that the Project will introduce weak visual contrast at this KOP.

#### **I.4.6.8 Woodmere Dock**

This KOP is located at a small boat launch and marina on the western shore of Brosewere Bay, the western-most water body within the larger Hewlett Bay, in the residential community of Woodmere, New York. This location is approximately 2.5 mi (4 km) west of the Hampton Road substation site and is bounded by single-family residential homes to the west, and the water of Brosewere Bay to the east. A golf course is located nearby to the south. The Hampton Road substation site would be located due east of the KOP and seen behind the open water of the Bay and undeveloped salt marsh hassocks scattered across the Bay.

##### **Existing View**

This KOP is within the Barrier Islands and Coastal Marshes ecoregion. The landscape surrounding this location is characterized by a level, low-elevation coastal plain dominated by extensive salt marshes surrounded by suburban development, with gridded residential neighborhoods broken up by the irregularly scattered waterways of Hewlett Bay and developed commercial transportation thoroughfares. Views from this location include far-reaching views across Brosewere Bay to the east, northeast and southeast. The small marina is visible in the foreground to the north which constitutes the most dominant developed features; in the distance, the large exhaust features of the Barrett Power facility can be seen. Vegetation is a minor component of the view; the rough low-growing scrub of the salt marsh can be seen as a thin horizontal strip across the Bay.

**View with the NY Project**

This location represents marine recreationists using the boat launch. The Hampton Road substation will be partially screened by other existing industrial buildings in the area. The upper portion of the proposed Hampton Road substation buildings may be visible; if so, it will be seen in the context of existing commercial and industrial development, including the Costco building and power lines. The Hampton Road substation buildings will be comparable in height to the existing cylinder-shaped buildings in the middleground. At a distance of 2.5 mi (4 km), the Hampton Road substation site will appear subordinate to other features and in fact could go unnoticed by many viewers. As such, the Hampton Road substation will introduce weak to no visual contrast at the Woodmere Docks.

**I.4.6.9 Masone Point Beach**

This KOP is located along a small, developed waterfront beach and greenspace in the community of Island Park, New York, on the southeastern edge of Hog Island Channel, a secondary waterway of the larger Hewlett Bay. Views from the beach are generally oriented northwest across the open water and undeveloped salt marsh islands/hassocks within the Bay. Amenities include a sandy beach, docks, playground, a waterfront walkway, and concessions seasonally.

**Existing View**

This KOP is within the Barrier Islands and Coastal Marshes ecoregion. The landscape surrounding this location is characterized by a level, low-elevation coastal plain dominated by extensive salt marshes surrounded by suburban development, with gridded residential neighborhoods broken up by the irregularly scattered waterways of Hewlett Bay. Views from this location include the open space of the small beach sloping to the dark blue water, a low barrier fence, and multiple pedestrian docks. Residential development is visible in the foreground to the east, and industrial and large-format commercial development is clearly visible in the background, beyond the open water.

**View with the NY Project**

This location represents residential viewers and recreationists enjoying the beach. At a viewing distance of 1 mi, the Hampton Road substation is difficult to identify among the existing similarly scaled development. The substation will be nearly fully screened by existing industrial buildings along the shoreline near the Hampton Road substation site. The upper portion of the proposed Hampton Road substation buildings will be visible but not apparent; seen in the context of existing commercial and industrial development, including the Costco store building and power lines. The Hampton Road substation buildings will be comparable in height to the existing cylinder-shaped buildings in the middleground. New lightning masts are the most visible component as seen from this KOP, due to their height. At a distance of 1 mi (1.6 km), the substation buildings at the Hampton Road substation will appear subordinate to other features. As such, the Project will introduce weak visual contrast at this Masone Point Beach.



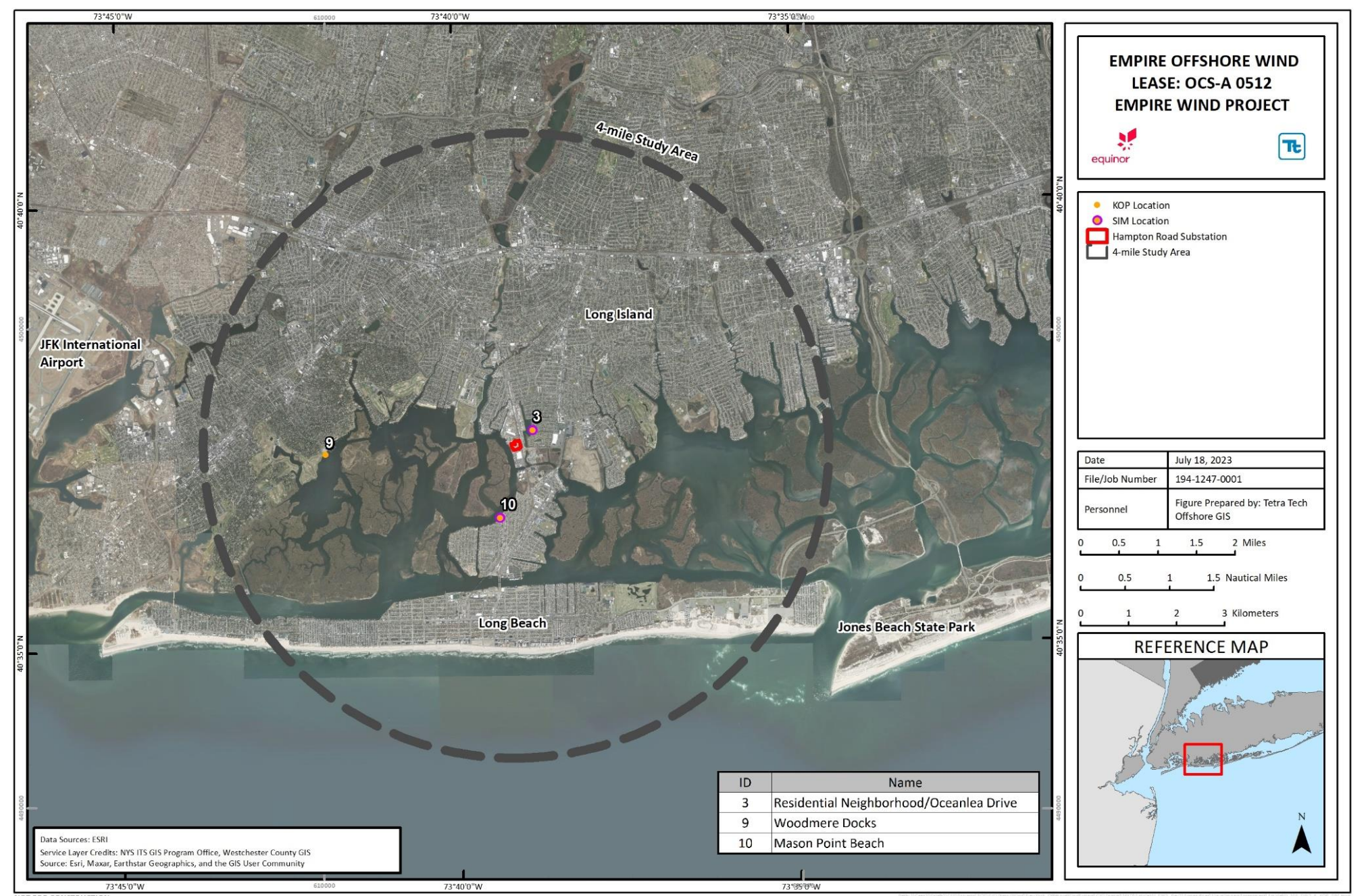


Figure I-8 Key Observation Points within the Hampton Road Substation Visual Study Area

## I.5 Impact Analysis

### I.5.1 Impact Analysis Methodology

Public enjoyment of a scenic resource is subjective and highly dependent on the viewer's perception of beauty and scenery. The addition of the NY Project facilities into a view may be detrimental to one viewer's enjoyment of a location but may have a negligible effect for a different viewer. Therefore, a process using the concept of "contrast" based on the BLM VRM system is often used to objectively measure potential changes to landscape features of inventoried sensitive resources (BLM 1986a, 1984). Concepts from the BLM VRM system are widely used for a variety of projects and, with some modifications, have been applied successfully to projects that do not occur on lands under the jurisdiction of the BLM. In the BLM VRM system, potential visual effects are assessed by considering the level of contrast the NY Project facilities introduce to the existing landscape. The BLM's visual contrast rating process (Manual 8431-1 Visual Resource Contrast Rating [BLM. 1986a]) was used as the basis for reviewing potential landscape changes resulting from the NY Project. A form adapted from the BLM's Visual Contrast Rating Worksheet (BLM Form 8400-4; **Attachment I-2**) was used to assess the degree of contrast the NY Project will introduce to the existing landscape.

#### I.5.1.1 Visual Contrast Rating

Assessing the degree of visual contrast is a means to evaluate the level of modification to the existing landscape features that would result from an action. In the context of the NY Project, existing landscape scenery is defined by the visual characteristics (form, line, color, and texture) associated with the landform (including water), vegetation, and existing facilities within and adjacent to the NY Project. Descriptions of each visual character element are listed below:

- Form—The shape and mass of landforms or structures;
- Line—The edge of shapes or masses, silhouettes, or bands;
- Color—The property of reflecting light of a particular intensity of wavelength that the eye can see; and
- Texture—The nature of the surface of landforms, vegetation, or structures.

The level of visual contrast introduced by an action can be measured by changes in form, line, color, and texture. The greater the difference between these character elements found within the landscape and the NY Project components, the greater the level of visual contrast, which typically increases perceived contrast.

The degree of contrast introduced to a particular viewpoint by NY Project facilities, in combination with the sensitivity of viewers at that viewpoint, will determine the level of visual effect. The following general criteria are used by the BLM when rating the degree of contrast and are utilized here to describe the visibility/noticeability of the NY Project onshore components:

- None—The element contrast is not visible or perceived;
- Weak—The element contrast can be seen but does not attract attention;
- Moderate—The element contrast begins to attract attention and begins to dominate the characteristic landscape; and
- Strong—The element contrast demands attention, will not be overlooked, and is dominant in the landscape (BLM 1986b).

Contrast ratings were prepared for each of the KOPs using a form adapted from the BLM's Visual Contrast Rating Worksheet (Form 8400-4) and the results are included in **Attachment I-2**.



### **I.5.1.2 Environmental Factors Affecting NY Project Visibility**

The theoretical limit of visibility is determined by the distance between the viewer and the structure, the height of the structure, the elevation of the viewer, and the curvature of the earth (BOEM 2007). However, the theoretical limit of visibility often exceeds the actual visibility or what is experienced in real life. Limits to human visual acuity also reduce the ability to discern objects at great distances. Other factors affecting the visibility include color and reflectivity of the object and the level of contrast with the visual background under varying lighting conditions (BOEM 2007). General descriptions of viewer distance, curvature of the earth and atmospheric refraction, angle of observation, and meteorological conditions are defined below.

#### **Viewer Distance**

Viewer distance from an area is a key factor in determining the level of visual effect, with perceived impact generally diminishing as distance between the viewer and the affected area increases (BOEM 2007). The BLM VRM categorizes views into foreground/middleground, background, and seldom seen distance zones. These distance zones provide a frame of reference for classifying the degree to which details of the viewed NY Project will affect visual resources.

For the onshore substation and Hampton Road substation sites, onshore NY Project components will be primarily within the foreground/middleground distance zone (0 to 5 mi [8 km]) for most viewers. Due to dense urban development surrounding the onshore substation and Hampton Road substation sites, it is anticipated that there will be no views of the onshore NY Project components in the background and seldom seen distance zones (5 mi to 15 mi [8 to 24 km] and beyond 15 mi [24 km], respectively).

#### **Curvature of the Earth and Atmospheric Refraction**

In general, objects or features that are closer to a viewer's location will appear more detailed and more dominant. As the distance from the viewing location to the object increases, less of the object will be visible. In addition, a viewer's line of sight curves downward at large distances because of the refraction of light in the Earth's atmosphere. This effectively lessens the impact of the earth's curvature on the relative height of an object.

#### **Angle of Observation**

Angle of observation refers to the angle between the viewer's line of sight and an object's location. Angles of observation are typically described as inferior (in which viewers are situated at a lower elevation than the object), level (in which viewers are at the same elevation as the object), and superior (in which viewers are situated at a higher elevation than the object).

#### **Meteorological Conditions**

Visibility can be reduced by daytime and nighttime meteorological conditions such as haze, fog, rain, snow, or a combination thereof.

### **I.5.1.3 Photographic Simulations**

Photographic simulations (simulations) were created to depict the NY Project components and their potential changes to the existing landscape. The simulations were used to determine the level of contrast between the existing landscape and the expected landscape after the NY Project is implemented. Four KOPs were selected for development of simulations for the onshore substation, and two KOPs were selected for simulations of the Hampton Road substation, to demonstrate how the constructed NY Project will appear to future viewers, primarily those representing locations with high viewer sensitivity and high potential for impacts to existing visual resources. Simulation locations are included in **Attachment I-3**. Simulations depict actual weather conditions at the time photography was taken during the field visits.

Simulations depicting the onshore substation and Hampton Road substation sites were created using a 3D facility model depicting the best available representation of building and exterior component physical dimensions, materials, and colors, arrangement of outdoor electrical, internal drive and parking areas and perimeter security fence for each site. Although the substation designs may be further refined during permitting, the simulations show potential changes to the existing landscape and were used to determine the level of contrast between the existing landscape and the expected landscape after the NY Project is implemented using a conservative conceptual layout.

A digital single lens reflex (dSLR) camera was used to take the photographs used in the simulations. The camera was equipped with a “normal lens,” which means that it most closely approximates the field of vision of the human eye. In photographs taken using this lens, the size and scale of objects in the background and foreground are depicted proportionately and are not distorted. At each photo point, a panorama, or an overlapping series of photographs, was captured. A global positioning system (GPS) device is used to record the latitude, longitude, elevation, date and time of each photo point location.

The simulations were created using geographic information system (GIS) software, Autodesk 3D Studio Max®, and rendering and Photoshop software. To create the simulations, the location data captured by the GPS device were transferred to ArcMap, where it was combined with GIS data of the preliminary layouts of NY Project components and facilities. A map showing the data was exported at true scale and imported into 3D Studio Max®. Using this scaled map as a base, 3D models of the offshore and onshore NY Project Areas were created to scale. These 3D models of the NY Project features, previously modeled to scale in 3D Studio Max®, were added in their appropriate locations and elevations. The views from the existing digital photographs were then matched in the 3D model using virtual cameras with the same focal length and field of view as the dSLR camera setting. After date- and time-specific lighting was added to the 3D model, renderings from the virtual cameras were created. These renderings were then blended into the existing conditions photographs in Adobe Photoshop software. Any necessary modifications to the existing landscape were completed in Photoshop as well. This process of creating a 3D model at true scale and rendering images using the same specifications used by the camera ensures that the spatial relationships of the landscape, NY Project features, and viewer perspective are accurate and match the existing site photographs. Each simulation was then scaled to be viewed at a specified distance.

Simulations for onshore NY Project components are included in **Attachment I-3**.

## **I.5.2 Potential Effects to Visual Resources**

Where visible and noticeable, the NY Project facilities have the potential to create visual effects. Sections below describe potential visual effects anticipated from the construction and operation of onshore components of the NY Project. At the end of the NY Project’s operational life, it will be decommissioned in accordance with a detailed NY Project decommissioning plan that will be developed in compliance with applicable laws, regulations, and best management practices at that time.

### **I.5.2.1 Construction**

#### **Offshore**

During construction, project-related vessels will be present within and transiting along the submarine export cable route. As vessel traffic is common along the Atlantic Coast, it is anticipated that the vessels required will not substantially increase traffic around the southern shore of Long Island. Most of the vessels used for NY Project construction will be similar in size and form to existing commercial vessels.

Short-term visual effects will occur during construction of the offshore submarine export cable corridors and will result from visual evidence of construction activities and the presence of construction equipment and work crews. Installation of the submarine export cables in nearshore waters will introduce project-related vessels relatively close to shore along the southern coast of Long Island, New York and in the areas near the cable landfall. While these vessels will be easily visible from shore, it is not uncommon to see vessel traffic in this area and it is anticipated they will not remain in any area for more than several months. Because of the relatively short duration that they will be in any single location, these project-related installation vessels are not anticipated to adversely affect visual resources.

### **Onshore**

The onshore export cables, interconnection cables and loop-in / loop-out lines associated with the NY Project will be entirely underground, with the exception of the portion of the interconnection cable route, which will cross Barnums Channel via a cable bridge. During construction, short-term visual impacts will occur. Construction areas associated with underground cable installation will be restored to a condition similar to that before construction and no significant long term visual impacts are anticipated.

Short-term visual effects will occur during construction of the onshore facilities and will result from visual evidence of construction activities and the presence of construction equipment and work crews. Construction activities associated with the onshore NY Project Area will include surveying; clearing the construction site (of either pavement and/or vegetation) and linear right-of-way; stockpiling topsoil; grading; forming and construction of the buildings and outdoor electrical equipment foundations; placement and erection of buildings and electrical equipment; placement of perimeter security fencing; and restoration and landscaping installation (if required). It is anticipated that contrast will be introduced during NY Project construction primarily for viewers adjacent to the NY Project Area, where the presence of construction equipment, materials, and crews will be dominant in the foreground.

For the construction of the onshore substation buildings, this includes viewers associated with commercial and industrial buildings primarily along Long Beach Road. Viewers associated with the cable bridge include commercial and industrial development in the area. For the Hampton Road substation, viewers of construction activities would primarily include motorists and pedestrians along Daly Boulevard and to a lesser extent, motorists along Lawson Boulevard, because views are screened by dense vegetation. However, these visual effects will be short-term because construction equipment and crews will be removed once construction is complete.

The cable bridge crossing is bordered to the east by the existing LIRR corridor, to the south by the E.F. Barrett Power Station, to the west by a body of water, and to the north by commercial development which includes a gas station and parking lot. Visibility is limited to industrial workers to the south and east, residents/travelers at the gas station, and a large waterbody to the west. Viewers that may see the cable bridge construction include commercial and industrial buildings primarily between Long Beach Road and Daly Boulevard. Additionally, LIRR commuters may see a glimpse of the bridge construction while commuting. However, these visual effects will be short-term because construction equipment and crews will be removed once construction is complete. Views of NY Project construction from areas not immediately adjacent to the cable bridge will be mostly screened by commercial or industrial buildings, vegetation and/or topography. Visual effects to these viewers will be mostly limited to seeing construction traffic on local roads and boats and/or equipment in the water.

Views of NY Project construction from areas not immediately adjacent to the onshore substation site, cable bridge, and Hampton Road substation will be mostly screened by residential, commercial or industrial buildings,

vegetation and/or topography. Visual effects to these viewers will be mostly limited to seeing construction traffic on local roads.

Roads will be repaired and repaved post-construction. Unless paving of the entire roadway occurs, contrast in color (new vs. old paving) may be noticeable however contrast is expected to be minimal and viewers are unlikely to notice significant changes in an urban environment.

### **I.5.2.2 Operation and Maintenance**

#### **Onshore Substation**

Long-term visual effects during operation of the onshore substation will result from the visibility of the aboveground components associated with the onshore substation buildings, outside electrical equipment, static masts, and perimeter security fence. The onshore substation buildings will introduce tall, rectangular forms and vertical and geometric structures into the landscape setting. Maintenance workers may be required to work in the onshore substation area or along the onshore export and interconnection cable corridors infrequently, which could cause some minor visual effects. Potential effects to visual resources associated with the proposed onshore substation site are described below.

The onshore substation site is located within a landscape setting that has been modified by residential, commercial, and industrial development. The footprint of the onshore substation buildings would be located in an area that is currently developed with a restaurant, other commercial buildings, and a small vacant area. Based on the results of the viewshed analysis and field visit, potential views of the onshore substation site will be primarily within the immediate vicinity of the proposed site, from the north and northeast along Long Beach Road, which is adjacent to the onshore substation site. Views to the south are partially blocked by the LIRR bridge across Reynolds Channel, Long Beach Bridge, and existing buildings and vegetation. Views to the west and north are screened by development and vegetation. From Long Beach Road near the onshore substation site, the large rectangular form and light color of the potential buildings will contrast with the dark green, irregular forms of the existing vegetation. The onshore substation buildings will be seen in the context of existing streetlights and utility lines in the foreground. Although existing structures and utilities are visible in the view, the NY Project will be a dominant feature in the view due to the proximity of the onshore substation site to the viewpoint and the large scale and light color of the potential buildings. As such, it is anticipated that the NY Project will introduce strong visual contrast in views from the southeast.

Viewers not directly adjacent to the onshore substation site, such as in the residential neighborhood along Quebec Road located approximately 0.07 mi (0.11 km) to the west, will have views toward the NY Project that vary from mostly to completely screened by vegetation and/or residential development. Based on review of aerial imagery, from residential backyards adjacent to LIRR and the substation site, views are anticipated to be mostly screened by vegetation. For residential backyard viewers, the upper portions of the substation building may be visible above existing vegetation. However, the portion of the potential building that is visible will be seen in the context of residential development, power lines, and a commuter railroad corridor that splits the two areas. The substation buildings at the onshore substation site will appear as a subordinate feature in the landscape setting. As such, the NY Project will introduce none to weak visual contrast in this area. Views toward the onshore substation site from residences farther west and north in the residential neighborhood are anticipated to be completely screened by residential development and will experience no visual contrast.

Along the north side of Long Beach Island, west of Long Beach Boulevard and the train bridge, views toward the NY Project will vary between completely screened to partially screened by topography and vegetation. Views to the north from the south are partially blocked by the train bridge, Long Beach Bridge, and existing



buildings and vegetation except immediately south of the onshore substation site. Facilities at the onshore substation site that may be visible include the upper portion of the potential building, which will be seen in the context of existing development such as power lines, streetlights, and the train bridge. At a distance of 0.43 mi (0.69 km) from the onshore substation site, although existing structures and utilities are visible in the view, the NY Project will be a co-dominant feature with the train bridge in the view due to the proximity of the site to the viewpoint and the large scale and light color of the potential buildings. As such, it is anticipated that the NY Project will introduce moderate visual contrast in views from the south.

Results are discussed in detail for each KOP in Section 1.4.6. Simulations depicting the onshore substation buildings as seen from the surrounding area are included in **Attachment I-3**.

### **Onshore Cable Routes**

The onshore export cable, interconnection cable, and loop-in / loop-out line routes are approximately 3.3 mi (5.3 km) long. There is no significant vegetation along the route and impacts to buildings or other structures are not anticipated, except at the onshore substation site where existing buildings will be demolished. No significant changes to the visual environment are anticipated as the route will be located underground, except at the cable bridge across Barnums Channel discussed below, and there will be no significant impacts to vegetation, no grading along the route, and the areas disturbed during construction will be restored according to state and local permit requirements.

### **Cable Bridge**

The cable bridge crossing over Barnum Channel is located within a landscape setting that has been modified by commercial and industrial development. The cable bridge crossing is bordered to the east by the existing LIRR corridor, to the south by the E.F. Barrett Power Station, to the west by a body of water, and to the north by commercial development which includes a gas station and parking lot. Visibility is limited to LIRR commuters, industrial workers to the south and east, residents/travelers at the gas station, and a large waterbody to the west. Viewers that may see the cable bridge include commercial and industrial buildings primarily between Long Beach Road and Daly Boulevard.

Long-term visual effects during operation of the cable bridge will result from the visibility of the aboveground components associated with the Barnums Channel crossing. The cable bridge crossing will introduce linear geometric forms into the landscape setting which is already highly developed with similar forms and structures, including the LIRR crossing. Additionally, LIRR commuters may see a glimpse of the bridge while commuting. The cable bridge will be seen in the context of an existing train bridge and an overhead pedestrian bridge on the south side of Barnums Channel. The presence of the aboveground infrastructure associated with the proposed cable bridge would represent a long-term visual impact; however, that impact is expected to be minor due to limited areas of visibility and the proximity to other existing industrial infrastructure.

### **Hampton Road Substation**

The Hampton Road substation site is located within a landscape setting that has been modified by industrial and commercial development, including residential development. The footprint for where the substation would be located is currently used for industrial purposes (recycling center), though existing electrical equipment and the E.F. Barrett Power Station are in close proximity. Based on the results of the viewshed analysis and subsequent field visits (see Section I.4.2 and Section I.4.3.3, respectively), potential views of the Hampton Road substation site will be primarily from the south and southwest and from along nearby roadways, including Daly Boulevard, which runs parallel to the south side of the Hampton Road substation site. Commuters using the LIRR, especially those passengers with west-facing views, would have very brief unobstructed views of the

Hampton Road substation as the train passed by. Views to the north, northwest, northeast, and south will be primarily screened by development, vegetation, and topography. Views toward the site from along Daly Boulevard and Hampton Road would be unobstructed. The large rectangular form and light color of the potential substation building will contrast with the browns and tans of the unvegetated vacant site. The site will be seen in the context of existing streetlights, utility lines along Daly Boulevard, other industrial buildings (warehouses, bulk petroleum storage, and manufacturing facilities) in the area, and Costco's light-colored building just south of the proposed Hampton Road substation in the foreground, and various warehouse/industrial buildings and smokestacks in the background. Residential areas to the east will have views of the substation GIS building, which may be slightly taller than the existing buildings immediately surrounding it. Although existing structures and utilities are present nearby the substation site, the Hampton Road substation will be a visible feature where it is seen in the immediate foreground view due to its proximity to the adjacent roadways (Daly Boulevard; Hampton Road) and the large scale of the facility. As such, it is anticipated that the NY Project may introduce a notable visual contrast to views immediately adjacent to the site and moderate to weak contrast for residential areas to the east. Strong contrast would only be seen for a very brief duration for most views.

Viewers not directly adjacent to the Hampton Road substation site, such as in the residential neighborhoods located around Island Park Harbor located between 0.2 mi (0.3 km) to 2.25 mi (3.6 km) from Hampton Road substation site, will have views toward the NY Project that vary from mostly to completely screened by vegetation and/or residential development. For viewers within the western and southern portion of nearby neighborhoods the top of the potential Hampton Road substation buildings and overhead transmission towers will be visible above vegetation and development. However, the portion of the potential buildings that are visible will be seen in the context of existing residential development, industrial and commercial uses, a high-voltage transmission line, and the smoke-stack associated with the existing Oceanside POI. From such views, the Hampton Road substation site will appear as a subordinate feature in the landscape setting. As such, the NY Project will introduce weak visual contrast to views from the west and south. Views toward the Hampton Road substation site from residences farther south and east in the residential neighborhoods are anticipated to be completely screened by residential development and will experience no visual contrast.

Along the north side of Long Beach Island views toward the Hampton Road substation will vary between completely screened to partially screened by topography, vegetation, and/or development. Facilities at the Hampton Road substation site that may be visible include the upper portion of the GIS building, which will be seen in the context of existing industrial development such as the recycling area and nearby commercial areas including the large Costco building. The Hampton Road substation will be similar in scale compared to the existing cylinder-shaped smoke-stacks to the south. From distances of 2 mi (3.2 km) and above, the Hampton Road substation will appear subordinate to other features and will not change the overall character of the view. As such the Project will introduce weak visual contrast in this area. Along the north side of Long Beach Island near the western end (west of Long Beach Boulevard) views toward the Project will be completely screened by vegetation and/or development.

**Table I-4** provides a summary of the level of contrast (i.e., strong, moderate, weak, none) for each KOP for the onshore NY Project components. Contrast Rating Worksheets for each KOP are located in **Attachment I-2**.

**Table I-4 Summary of Contrast Rating of Key Observation Points for Onshore NY Project Components**

Map ID Number	Name	Location	Distance to Project Site (mi [km])	Contrast Rating c/	Simulation Created for KOP d/
<b>Onshore substation a/</b>					
1	Quebec Road/Residential Neighborhood	Island Park, NY	0.07 (0.11)	Weak/None e/	Yes
2	Long Beach Bridge	Island Park, NY	0.09 (0.15)	Strong	Yes
3	Long Beach Skate Park	Long Beach, NY	0.43 (0.69)	Moderate	Yes
4	Island Park Station	Island Park, NY	0.19 (0.31)	None e/	Yes
<b>Hampton Road substation b/</b>					
3	Residential Neighborhood / Oceanlea Drive	Oceanside, NY	0.2 (0.3)	Weak	Yes
9	Woodmere Dock	Hewlett Neck, NY	2.5 (4)	Weak/None	-
10	Masone Point Beach / Residential Neighborhood	Oceanside, NY	1 (1.6 m)	Weak	Yes

Notes:

a/ Map ID numbers correspond to the maps shown in **Figure I-7**.

b/ Map ID numbers correspond to the maps shown in **Figure I-8**

c/ Visual Contrast Rating Worksheets for each KOP is included in **Attachment I-2**. Contrast Rating Worksheets for each KOP appear in the same order as they are listed in **Table I-2**.

d/ Visual simulations are included in **Attachment I-3**.

e/ Viewpoint is not visible from the public right-of-way (see simulations in Appendix I); however, there may be partial views from residences adjacent to the substation site.

### I.5.2.3 Nighttime Lighting

Nighttime construction activities are proposed to occur within the NY Project Area. Navigation lights associated with large vessels (i.e., barges and jack-up vessels) and lights necessary to perform construction activities may be visible from coastal vantage points. However, visual effects resulting from nighttime construction activities will be limited to only those locations where construction is to occur. These visual effects will also be short-term, as the large vessels and lights necessary to perform construction activities will not be present overnight once construction is complete.

Proposed nighttime lighting associated with the onshore NY Project components includes security lighting installed along substation perimeter security fencing and at building entrances. Security lighting will be directed downward and shielded to avoid light pollution impacts. The amount of light generated by the security lights will be consistent with existing sources produced by human-made structures near the proposed onshore substation and Hampton Road substation sites, including lighting from residences, commercial and industrial development, and streetlights.

### I.5.3 Mitigation

The undergrounding of the onshore export cables, interconnection cables and loop-in / loop-out lines will mitigate many of the potential visual effects of the NY Project that would otherwise occur with overhead transmission lines. For the onshore aboveground NY Project components, which include the onshore substation and Hampton Road substation buildings and the cable bridge, the following mitigation measures that will minimize visual contrast will be incorporated into the NY Project design:

- Construction Phase:
  - A Fugitive Dust Control Plan will be implemented to minimize dust (visual pollution);
  - The onshore NY Project Area will be maintained free of debris, trash, and waste to the extent possible during construction; and
  - Areas temporarily disturbed during construction will be restored.
- Operation Phase:
  - The onshore export cables, interconnection cables and loop-in / loop-out lines and joint bays will be located underground, and will not be visible during NY Project operation and maintenance, with the exception of potential discoloration of old vs new paved areas in the roadway;
  - Buildings will be a combination of clad steel frame and concrete buildings, designed to match the style and visual character of the surrounding urban landscape, and are proposed to be painted a light gray or white color. Empire will continue to work with local stakeholders throughout the permitting process and will submit final building architectural design details in the Environmental Management and Construction Plan as part of the Article VII approval process for the NY Project;
  - The onshore substation and Hampton Road substation sites are anticipated to have minimal presence of crews and equipment conducting maintenance activities; and
  - Lighting at the onshore substation and Hampton Road substation sites will be designed to reduce light pollution where feasible (e.g., downward lighting, motion-detecting sensors).

As site design progresses, the Applicant will consider mitigation measures to reduce visual contrast, such as repetition of form, line, color, and texture based on other existing elements around the site.

## I.6 Conclusions

Overall, the onshore NY Project components would result in changes to the landscape conditions that vary from strong to none for viewers within the VSAs (**Table I-4**). On a short-term basis during the construction period for each of the onshore NY Project components, viewers would be able to observe construction equipment, laydown areas and crews. Varying degrees of visual contrast will occur when equipment and construction crews are present; however, contrast will be short-term since equipment and support facilities will be removed once construction is complete. Long-term visual effects during operation of the onshore substation will result from the visibility of the aboveground components associated with the substation buildings, outside electrical equipment, static masts, and perimeter fence and from the occasional presence of crews and equipment for maintenance activities. The onshore substation and Hampton Road substation buildings will introduce tall, rectangular forms and vertical and geometric structures into landscape settings that in many cases have been heavily modified by commercial, industrial and/or residential development.

Views of the onshore substation site are limited primarily to viewers adjacent to the east and south, with minimal views to the north and west. Viewers adjacent to the site (i.e., along Long Beach Boulevard and Bridge) and south of the site in Long Beach will perceive a change in the landscape, and it is anticipated that the contrast created by the change will vary from strong to weak. Perceived change will be higher from areas close to the site with open unobstructed views, such as from along Long Beach Boulevard/Bridge, where the substation buildings will introduce strong contrast. For this reason, the perimeter wall was introduced to screen the substation site from northward views across the channel. Perceived change will be reduced to moderate for viewers along the north side of Long Beach Island, where views toward the site will partially screened by



topography, vegetation, and/or existing development. Views from the west, north,<sup>6</sup> and northeast will be screened by development, vegetation, and topography and will not be materially changed by the NY Project.

Views of the cable bridge are limited primarily to viewers adjacent to the Barnums Channel, with minimal views to the west towards a large waterbody. Viewers adjacent to the bridge will perceive a change in the landscape, and it is anticipated that the contrast created by the change will be weak. Perceived change will be higher from areas close to the site, such as from commercial and industrial development immediately surrounding Barnums Channel.

Affected views of the Hampton Road substation are limited primarily to immediately adjacent roadways such as Daly Boulevard and Hampton Road, and waterfront areas to the southwest and northwest with unobstructed sightlines toward the site location. As demonstrated by the visual simulations, with viewing distances of one mile or more, views of the Hampton Road substation would result in weak visual contrast.

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<sup>6</sup> This refers to viewers farther north beyond the Island Park Station.

## I.7 References

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## **Attachment I-1**

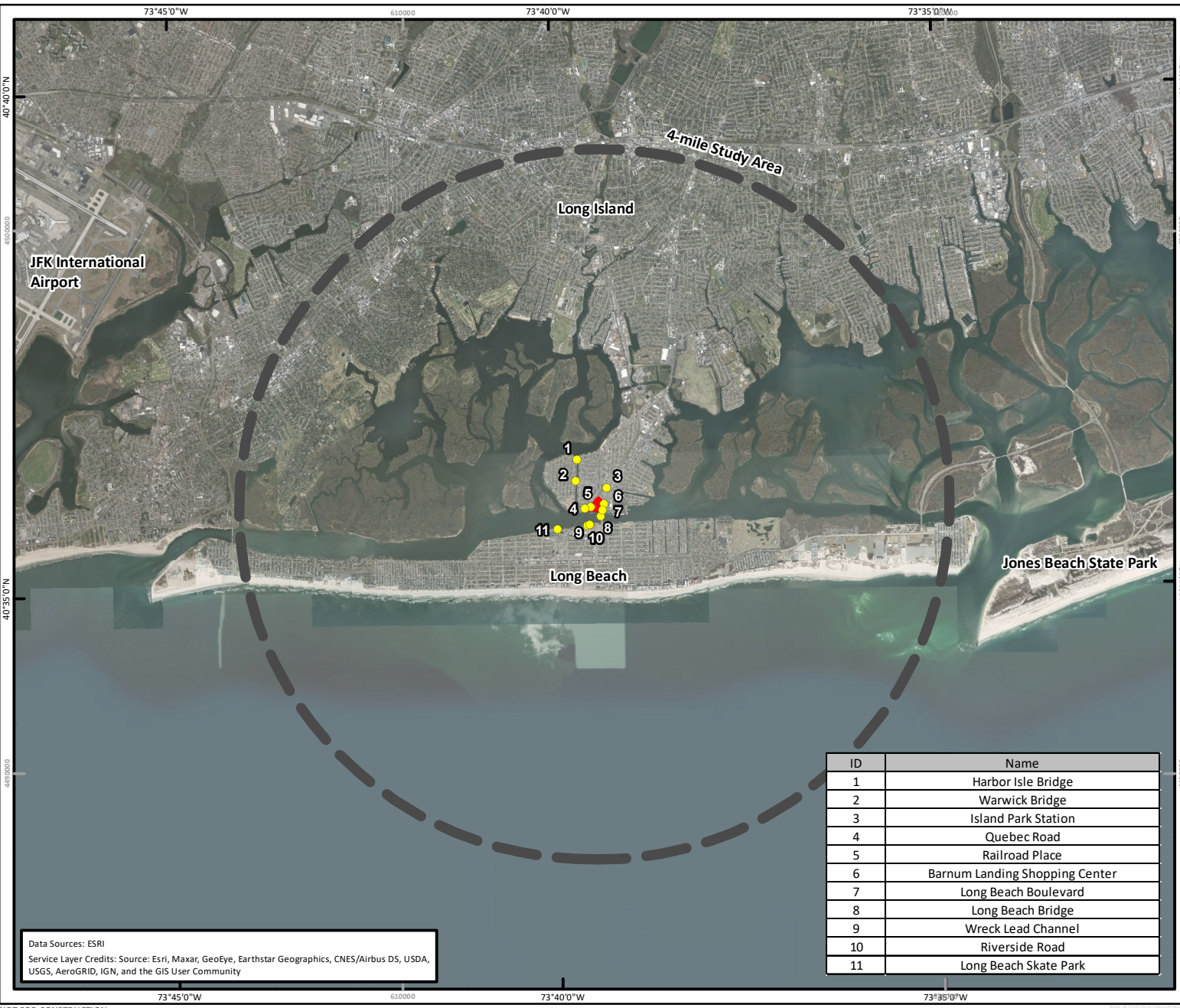
## **Visual Resource Inventory**

- Table I-1-1 Visual Resource Inventory within the Onshore Visual Study Area
- Figure I-1-1 Visual Resource Inventory Map – Onshore Substation
- Figure I-1-1 Visual Resource Inventory Map – Hampton Road Substation
- Visual Resource Inventory Photo Log (Visual Study Area)



**Table I-1.2: Visual Resource Inventory within the Onshore Substation Visual Study Area**

Inventory ID <sup>a/</sup>	Name	Location	Resource Type	Description
1	Harbor Isle Bridge	Island Park, NY	Travel Way	Harbor Isle Bridge is a thoroughfare primarily for residential and recreational traffic. Residential houses, beach areas, and marinas can be seen from this bridge.
2	Warwick Bridge	Island Park, NY	Travel Way	Warwick Bridge is a thoroughfare primarily for residential and recreational traffic. Residential houses, beach areas, and marinas can be seen from this bridge.
3	Island Park Station	Island Park, NY	Travel Way	Island Park Train Station is public transportation serving residential communities in the area. It is surrounded by the Grand Rehabilitation and Nursing at South Point, mixed commercial and industrial development, and residential development.
4	Quebec Road	Island Park, NY	Residential, Travel Way	Quebec Road is a public road that serves a nearby residential community. It is bordered by the proposed facility, the Island Park Train Station, and mixed commercial and industrial use.
5	Railroad Place	Island Park, NY	Public Recreation	Road adjacent to a boat maintenance shop which is adjacent to Pop's Seafood Shack and Grill. Residential development, train, and mixed commercial and industrial use are located nearby.
6	Barnum Landing Shopping Center	Island Park, NY	Travel Way, Residential	Shopping center located east of Pop's Seafood Shack and Grill includes several stores and a large parking area. Residential development and mixed commercial and industrial use are located nearby.
7	Long Beach Boulevard	Island Park, NY	Travel Way	Long Beach Boulevard is a thoroughfare for commercial, industrial and residential traffic. Development along Long Beach Boulevard includes a commercial strip mall, residential areas, and the Grand Rehabilitation and Nursing at South Point.
8	Long Beach Bridge	Island Park, NY	Travel Way	Long Beach Bridge is a thoroughfare for commercial, industrial and residential traffic. Development along Long Beach Bridge includes a commercial strip mall, residential areas, and the Grand Rehabilitation and Nursing at South Point in Island Park, New York, as well as recreation, residential, and mixed commercial uses in Long Beach, New York.
9	Wreck Lead Channel	Long Beach, NY	Travel Way	Dispersal area near Long Beach Bridge, nearby to roads and mixed commercial and industrial uses. Residential development also located nearby.
10	Riverside Road	Long Beach, NY	Travel Way, Residential	Riverside Road is a thoroughfare primarily serving residential communities, public recreation, and mixed commercial and industrial uses.
11	Long Beach Skate Park	Long Beach, NY	Public Recreation	Long Beach Park includes a fishing pier, dog park, skate park, ice arena, and recreational center which sits along Wreck Lead Channel. Adjacent to the park areas are a wastewater treatment plant, soup kitchen, and residential development.
<p>Notes:</p> <p>a/ The Inventory ID corresponds to the Visual Study Area Visual Resource Inventory map for the onshore substation.</p> <p>Acronyms:</p> <p>NPS (National Parks Service)</p> <p>NHL (U.S. National Historic Landmark)</p> <p>NJRHP (New Jersey Register of Historic Places)</p> <p>NRHP (U.S. National Register of Historic Places)</p> <p>NYC (New York City)</p>				



JFK International  
Airport

Long Island

4-mile Study Area

Long Beach

Jones Beach State Park

Data Sources: ESRI  
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ID	Name
1	Harbor Isle Bridge
2	Warwick Bridge
3	Island Park Station
4	Quebec Road
5	Railroad Place
6	Barnum Landing Shopping Center
7	Long Beach Boulevard
8	Long Beach Bridge
9	Wreck Lead Channel
10	Riverside Road
11	Long Beach Skate Park

EMPIRE OFFSHORE WIND  
EMPIRE WIND 2 PROJECT

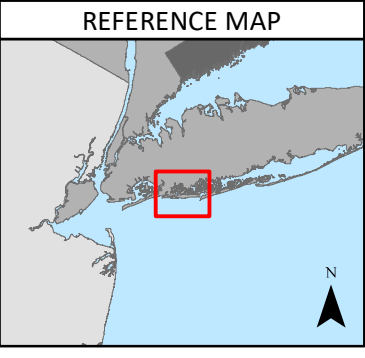
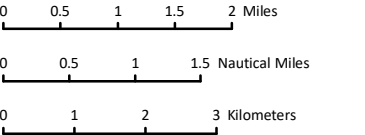


 Inventory Location

 Onshore Substation

 4-mile Study Area

Date	March 9, 2022
File/Job Number	194-1247-0001
Personnel	Figure Prepared by: Tetra Tech Offshore GIS







1. Harbor Isle Bridge, NY



2. Warwick Bridge, NY





3. Island Park Station, NY



4. Quebec Road, NY





5. Railroad Place, NY



6. Barnum Landing Shopping Center, NY





7. Long Beach Boulevard, NY



8. Long Beach Bridge, NY





9. Wreck Lead Channel, NY



10. Riverside Road, NY



11. Long Beach Skate Park, NY



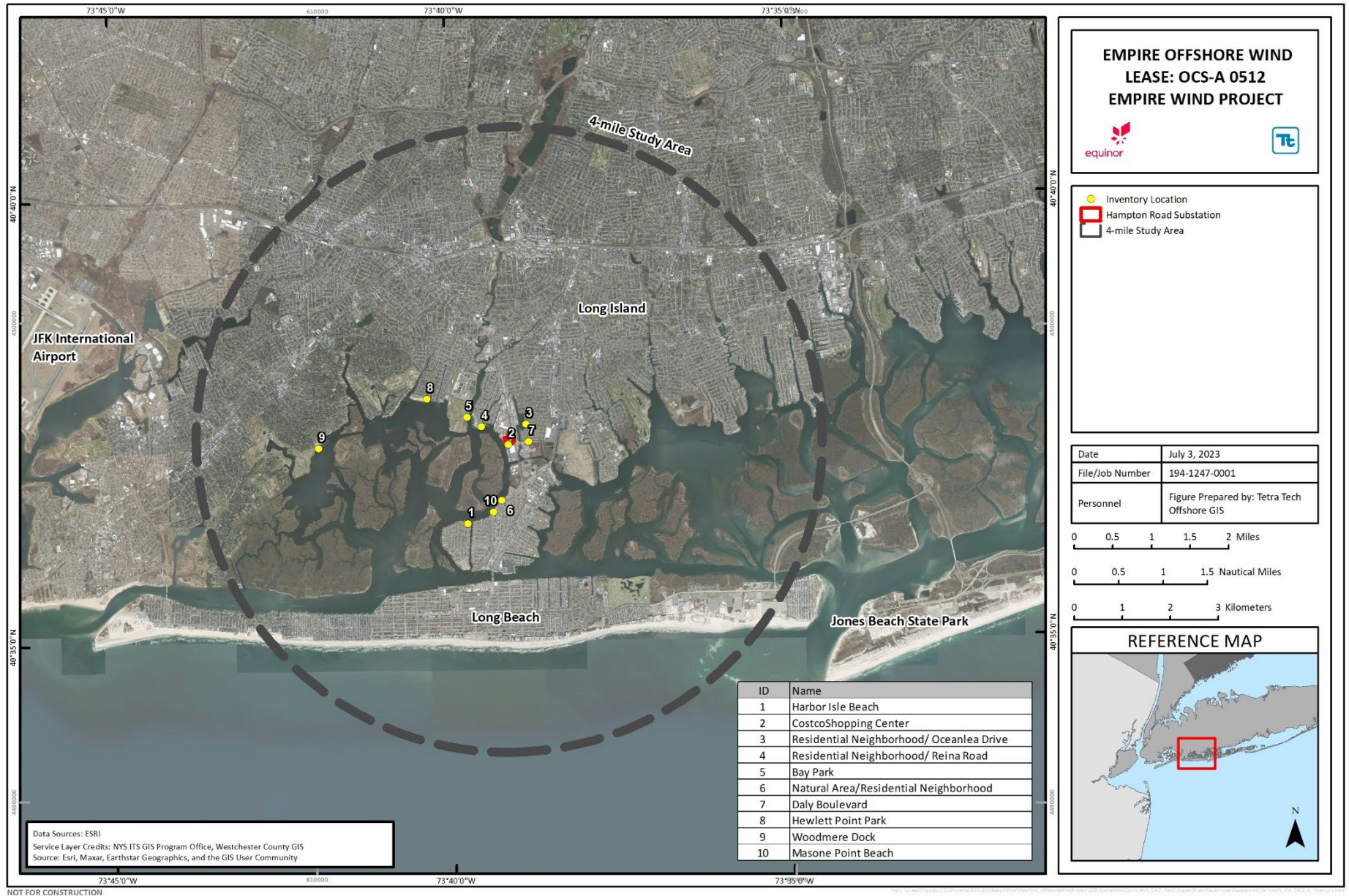
## Empire Offshore Wind: Empire Wind 2 Project Visual Resource Inventory

**Table I-1.3: Visual Resource Inventory for Hampton Road substation**

Inventory ID a/	Name	Location	Resource Type	Description
1	Harbor Isle Beach	Town of Hempstead, NY	Public Recreation	Harbor Isle Beach is a small waterfront area, open only in the summer months, on Island Park Harbor with a playground, sandy swimming/wading beach, and concessions. Access is via Island Parkway.
2	Costco Shopping Center	Oceanside, NY	Commercial	Costco is a large, big box store with low rise warehouse style shopping, large parking lot south of the main building, and a gas station on site. Vehicle access is via Hampton Road. The Hampton Road substation would be located north of Costco.
3	Residential Neighborhood/Oceanlea Drive	Oceanside, NY	Residential, Travel Way	Oceanlea Drive is a residential street fronting onto an inland finger of Barnum's Channel. Single family homes are situated on the east side of the street, and a sidewalk with some waterfront views occur along the west side.
4	Residential Neighborhood/ Reina Road	Oceanside, NY	Residential, Travel Way	Reina Road is a residential street at the southern end of a narrow, developed peninsula. Development along Reina Road includes single family residences, some of which are waterfront homes, and a marina/boat storage lot.
5	Bay Park	East Rockaway, NY	Public Recreation	This portion of Bay Park is comprised mainly of undeveloped open space with naturalized vegetation, mowed grass areas and open views across East Rockaway Channel. Amenities include a cricket field, walking path, and a boat launch.
6	Natural Area/Residential Neighborhood	Island Park, NY	Public Recreation, Residential	Located on an undeveloped waterfront area southwest of Norfolk Road in a residential area. Low growing vegetation dominates the area, which is just northeast of the Masone Beach Club. Open views across the channel and toward nearby development are present.
7	Daly Boulevard	Oceanside, NY	Travel Way	Daly Boulevard is a 4-lane thoroughfare for commercial, industrial, and residential traffic. Development along Daly Boulevard includes multifamily housing, strip-mall format commercial shopping, and a wetland area associated with a finger of Barnum's Channel. The west end of Daly Boulevard makes up the south perimeter of the Hampton Road Substation site.
8	Hewlett Point Park	East Rockaway, NY	Public Recreation	Hewlett Point Park is a waterfront open area with a large sandy beach, inground pools, locker rooms, and playgrounds. The beach is oriented to the south on Hewlett Bay.
9	Woodmere Dock	Hewlett Neck, NY	Public Recreation	Woodmere Docks is a small waterfront area with a wide walkway along the water of Brosewere Bay, and views are oriented south and east across the water. A large parking lot and small marina and boat launch are located nearby.
10	Masone Point Beach	Oceanside, NY	Public Recreation	Small, developed waterfront beach and greenspace in the community of Island Park, New York, on the southeastern edge of Hog Island Channel, a secondary waterway of the larger Hewlett Bay. Views from the beach are generally oriented northwest across the open water and undeveloped salt marsh islands/hassocks within the Bay. Amenities include a sandy beach, docks, playground, a waterfront walkway, and concessions seasonally.

a/ The Inventory ID corresponds to the Visual Study Area Visual Resource Inventory map for the Hampton Road substation.

# Empire Offshore Wind: Empire Wind 2 Project Visual Resource Inventory







1. Harbor Isle Beach





2. Costco Shopping Center





3. Residential Neighborhood/Oceanlea Drive















7. Daly Boulevard











10. Masone Point Beach

## **Attachment I-2                      Visual Contrast Rating Worksheets**

Visual Contrast Rating Worksheets for NY Project Components:

Onshore Substation:

- Quebec Road/Residential Neighborhood
- Long Beach Bridge
- Long Beach Skate Park
- Island Park Station

Hampton Road Substation:

- Oceanlea Drive
- Woodmere Docks
- Masone Point Beach



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROJECT INFORMATION

<b>KOP: Onshore Substation – Residential Neighborhood/Oceanlea Drive</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 0.2 mi (0.3 m)</b>		<b>Date: 3/5/2021</b>		
<b>Latitude: 40.62395° N</b>		<b>Longitude: -73.648° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input checked="" type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input checked="" type="checkbox"/> (Partially/Completely)		
<b>Type of User:</b> Residential	<b>Visual Sensitivity:</b>			
	User Expectation: High	Duration of View: High	Use Volume: Moderate	Overall Sensitivity: High
<b>Has a Photo Simulation Been Created for KOP?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			<b>If yes, Figure Number:</b> Attachment I-3	

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
Form	Foreground/Middleground (FG/MG): Flat, level Background (BG): not applicable (N/A) Seldom Seen (SS): N/A	FG/MG: thin, narrow strips; scattered; irregular patch; rectangular and rounded	FG/MG: blocky (buildings); tall thin, horizontal thin (utility lines/poles); flat narrow (road/sidewalk); long horizontal strip solid (fence)
Line	FG/MG: horizontal straight	FG/MG: straight butt edge with sidewalk/road; angular, rounded	FG/MG: multiple, thin horizontal; tall thin; rectangular; straight; short, thin
Color	FG/MG: not discernible	FG/MG: tan, brown	FG/MG: gray, white, black, red, brown, tan
Texture	FG/MG: not discernible	FG/MG: fine, stippled; course	FG/MG: fine to course; even, ordered

## REPRESENTATIVE PHOTOGRAPH





# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



PROPOSED ACTIVITY DESCRIPTION													
	Land/Water				Vegetation				Structures				
Form	N/A				N/A				FG/MG: blocky				
Line	N/A				N/A				FG/MG: rectangular				
Color	N/A				N/A				FG/MG: light grey				
Texture	N/A				N/A				FG/MG: fine, smooth				
CONTRAST RATING													
Level of Contrast													
Elements	Features												
	Degree of Contrast	LAND/WATER				VEGETATION				STRUCTURES			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
	FORM				X				X			X	
	LINE				X				X			X	
	COLOR				X				X			X	
TEXTURE				X				X			X		
Overall Level of Contrast: Weak													

## Contrast Rating Criteria

Degree of Contrast	Rating Criteria
<b>Strong</b>	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
<b>Moderate</b>	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
<b>Weak</b>	The element contrast can be seen but does not attract attention.
<b>None</b>	The element contrast is not visible or perceived.

## Additional Comments:

The onshore substation will be partially screened by existing vegetation and existing industrial buildings. The large horizontal, rectangular forms and light grey color of the proposed building will be similar to the white and grey tones of the existing buildings and tents on site and nearby. The texture of the proposed building contrasts in texture as the proposed building appears smooth compared to the rougher texture of the existing buildings. The onshore substation will be seen in the context of other industrial buildings but could be noticed because the onshore substation GIS building may be slightly taller than the existing buildings immediately in front of the substation in the foreground. Although existing development and utilities are visible in the view, due to the close viewing distance and the heights of certain facility components, it is anticipated that the Project will introduce weak visual contrast at this KOP.

# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROJECT INFORMATION

<b>KOP: Hampton Road substation – Woodmere Dock</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 2.25 mi (3.6 m)</b>		<b>Date: 3/5/2021</b>		
<b>Latitude: 40.61993° N</b>		<b>Longitude: -73.6991° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input checked="" type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input checked="" type="checkbox"/> <small>(Partially/Completely)</small>		
<b>Type of User:</b> Recreation	<b>Visual Sensitivity:</b>			
	<i>User Expectation:</i> High	<i>Duration of View:</i> Moderate	<i>Use Volume:</i> Moderate	<i>Overall Sensitivity:</i> Moderate
<b>Has a Photo Simulation Been Created for KOP?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<b>If yes, Figure Number:</b> N/A	

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
<b>Form</b>	Foreground/Middleground (FG/MG): Flat, level (water)/flat, to gently rolling (land) Background (BG): Not Applicable (N/A) Seldom Seen (SS): N/A	FG/MG: thin, narrow strip BG: large irregular patch	BG: small, large, blocky; vertical tall and thin; low thin, narrow, wide
<b>Line</b>	FG/MG: horizontal straight, strong (shoreline); BG: horizontal straight, and irregular	FG/MG/BG: horizontal irregular	BG: geometric; short thin; short narrow strips
<b>Color</b>	FG/MG: grayish/blue BG: not discernible	FG/MG/BG: tan, dark green	BG: brown, tan, gray, black, white
<b>Texture</b>	FG/MG: fine, stippled, glossy BG: not discernible	FG/MG/BG: fine, dense	BG: course, dense

## REPRESENTATIVE PHOTOGRAPH



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



PROPOSED ACTIVITY DESCRIPTION													
	Land/Water				Vegetation				Structures				
Form	N/A				N/A				FG/MG: blocky				
Line	N/A				N/A				FG/MG: rectangular				
Color	N/A				N/A				FG/MG: light beige				
Texture	N/A				N/A				FG/MG: fine, smooth				
CONTRAST RATING													
Level of Contrast													
Elements	Features												
	Degree of Contrast	LAND/WATER				VEGETATION				STRUCTURES			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
	FORM				X				X			X	X
	LINE				X				X			X	X
	COLOR				X				X			X	X
TEXTURE				X				X			X	X	
Overall Level of Contrast: Weak/None													

## Contrast Rating Criteria

Degree of Contrast	Rating Criteria
<b>Strong</b>	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
<b>Moderate</b>	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
<b>Weak</b>	The element contrast can be seen but does not attract attention.
<b>None</b>	The element contrast is not visible or perceived.

## Additional Comments:

The Hampton Road substation will be partially screened by other existing industrial buildings in the area. The upper portion of the proposed Hampton Road substation buildings may be visible; if so, they will be seen in the context of existing commercial and industrial development, including the Costco building and power lines. The Hampton Road substation buildings will be comparable in height to the existing cylinder shaped buildings in the middleground. At a distance of 1 mi (1.6 km), the Hampton Road substation buildings will appear subordinate to other features. As such, the Project will introduce weak to no visual contrast at this KOP.



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



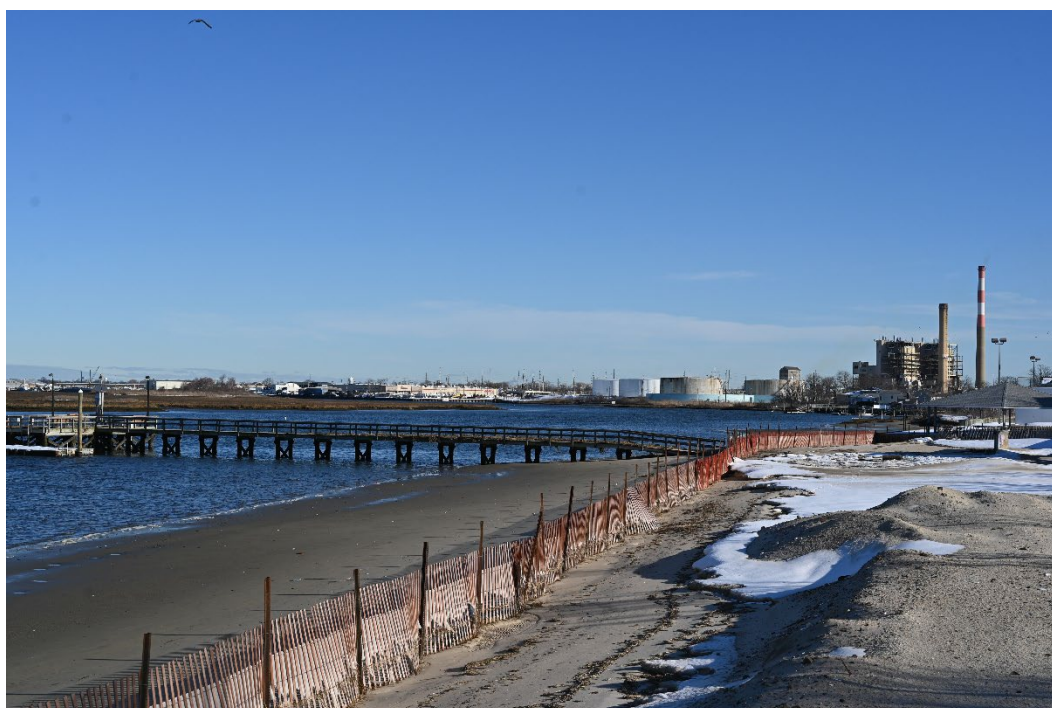
## PROJECT INFORMATION

<b>KOP: Hampton Road Substation – Masone Point Park</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 1 mi (1.6 m)</b>		<b>Date: 3/5/2021</b>		
<b>Latitude: 40.60755° N</b>		<b>Longitude: -73.6563° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input checked="" type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input type="checkbox"/> (Partially/Completely)		
<b>Type of User:</b> Recreation	<b>Visual Sensitivity:</b>			
	<i>User Expectation:</i> High	<i>Duration of View:</i> Moderate	<i>Use Volume:</i> Moderate	<i>Overall Sensitivity:</i> Moderate
<b>Has a Photo Simulation Been Created for KOP?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>If yes, Figure Number:</b> Attachment I-3		

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
Form	Foreground/Middleground (FG/MG): flat, level (paved areas and water), horizontal, curved (shoreline) Background (BG): not applicable (N/A) Seldom Seen (SS): N/A	FG/MG/BG: thin, narrow strip, small irregular patch	BG: small, large, blocky; vertical tall and thin; low thin, narrow; flat, horizontal
Line	FG/MG: horizontal straight, strong (shoreline); BG: horizontal straight, and irregular	FG/MG/BG: horizontal irregular	BG: geometric; short thin; short narrow strips; wide short vertical strips; horizontal
Color	FG/MG: grayish/blue BG: not discernible	FG/MG/BG: tan, golden	BG: brown, tan, gray, black, red, white
Texture	FG/MG: fine, stippled, glossy BG: not discernible	FG/MG/BG: fine, dense	BG: course, dense

## REPRESENTATIVE PHOTOGRAPH



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



PROPOSED ACTIVITY DESCRIPTION												
	Land/Water				Vegetation				Structures			
Form	N/A				N/A				FG/MG: blocky			
Line	N/A				N/A				FG/MG: rectangular			
Color	N/A				N/A				FG/MG: light beige			
Texture	N/A				N/A				FG/MG: fine, smooth			

CONTRAST RATING													
Level of Contrast													
Elements	Features												
	Degree of Contrast	LAND/WATER				VEGETATION				STRUCTURES			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
	FORM				X				X			X	
	LINE				X				X			X	
	COLOR				X				X			X	
TEXTURE				X				X			X		
Overall Level of Contrast: Weak													

## Contrast Rating Criteria

Degree of Contrast	Rating Criteria
<b>Strong</b>	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
<b>Moderate</b>	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
<b>Weak</b>	The element contrast can be seen but does not attract attention.
<b>None</b>	The element contrast is not visible or perceived.

## Additional Comments:

At a viewing distance of 1 mi, proposed facility is difficult to identify among the existing similarly scaled development. The Hampton Road substation will be nearly fully screened by existing industrial buildings along the shoreline near the Hampton Road substation site. The upper portion of the proposed Hampton Road substation buildings will be visible but seen in the context of existing commercial and industrial development, including the Costco store building and power lines. The Hampton Road substation buildings will be comparable in height to the existing cylinder shaped buildings in the middleground. At a distance of 1 mi (1.6 km), the Hampton Road substation buildings will appear subordinate to other features. As such, the Project will introduce weak visual contrast at this KOP.

# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROJECT INFORMATION

<b>KOP: Onshore Substation – Quebec Road/Residential Neighborhood</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 0.07 mi (0.11 km)</b>		<b>Date: 9/12/2021</b>		
<b>Latitude: 40.597048° N</b>		<b>Longitude: -73.660342° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input checked="" type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input type="checkbox"/> <small>(Partially/Completely)</small>		
<b>Type of User:</b> Residential/Travel Way	<b>Visual Sensitivity:</b>			
	<i>User Expectation:</i> High	<i>Duration of View:</i> High	<i>Use Volume:</i> Low	<i>Overall Sensitivity:</i> High
<b>Has a Photo Simulation Been Created for KOP?</b>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>If yes, Figure Number:</b> Attachment I-3

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
<b>Form</b>	Foreground (FG): Flat, level Middleground/Background (MG/BG): not applicable (N/A) Seldom Seen (SS): N/A	FG: small, patchy	FG: blocky (buildings); tall thin, horizontal thin (utility lines/poles); flat narrow (road); long horizontal, vertical strip solid (fence)
<b>Line</b>	FG: horizontal straight, curved, vertical	FG: irregular	FG: multiple, thin horizontal slightly curving; tall thin; rectangular; straight, horizontal (road); short, thin
<b>Color</b>	FG: tan, brown	FG: green, dark green, brown, tan	FG: gray, white, black, tan
<b>Texture</b>	FG: fine to medium	FG: fine, stippled to coarse, dense	FG: fine to medium

## REPRESENTATIVE PHOTOGRAPH





# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



PROPOSED ACTIVITY DESCRIPTION												
	Land/Water				Vegetation				Structures			
Form	N/A				N/A				N/A			
Line	N/A				N/A				N/A			
Color	N/A				N/A				N/A			
Texture	N/A				N/A				N/A			

CONTRAST RATING													
Level of Contrast													
Elements	Features												
	Degree of Contrast	LAND/WATER				VEGETATION				STRUCTURES			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
	FORM				X				X				X
	LINE				X				X				X
	COLOR				X				X				X
TEXTURE				X				X				X	
Overall Level of Contrast: None													

## Contrast Rating Criteria

Degree of Contrast	Rating Criteria
<b>Strong</b>	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
<b>Moderate</b>	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
<b>Weak</b>	The element contrast can be seen but does not attract attention.
<b>None</b>	The element contrast is not visible or perceived.

## Additional Comments:

The Onshore Substation will be screened from view by residential development and vegetation.

# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROJECT INFORMATION

<b>KOP: Onshore Substation – Long Beach Road Bridge</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 0.09 mi (0.15 km)</b>		<b>Date: 9/12/2021</b>		
<b>Latitude: 40.595684° N</b>		<b>Longitude: -73.656966° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input checked="" type="checkbox"/> (Partially/Completely)		
<b>Type of User:</b> Travel Way	<b>Visual Sensitivity:</b>			
	<i>User Expectation:</i> Moderate	<i>Duration of View:</i> Moderate	<i>Use Volume:</i> High	<i>Overall Sensitivity:</i> Moderate
<b>Has a Photo Simulation Been Created for KOP?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			<b>If yes, Figure Number:</b> Attachment I-3	

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
<b>Form</b>	Foreground/Middleground (FG/MG): Flat, level Background (BG): not applicable (N/A) Seldom Seen (SS): N/A	FG/MG: irregular patches; strips	FG/MG: blocky (buildings); tall thin, horizontal thin (utility lines/poles); flat narrow (road/sidewalk, railroad)
<b>Line</b>	FG/MG: horizontal straight	FG/MG: horizontal, angular, rounded	FG/MG: multiple, thin horizontal; tall thin; rectangular; straight, horizontal (road); short, thin
<b>Color</b>	FG/MG: gray	FG/MG: green, dark green, brown	FG/MG: gray, white, black, red, brown, tan
<b>Texture</b>	FG/MG: rippled	FG/MG: fine, stippled; course	FG/MG: fine to course; even, ordered

## REPRESENTATIVE PHOTOGRAPH



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROPOSED ACTIVITY DESCRIPTION

	Land/Water	Vegetation	Structures
Form	N/A	N/A	FG: narrow strip
Line	N/A	N/A	FG: straight horizontal, vertical
Color	N/A	N/A	FG: tan, light gray/white
Texture	N/A	N/A	FG: fine, medium

## CONTRAST RATING

### Level of Contrast

#### Features

Elements	Degree of Contrast	LAND/WATER				VEGETATION				STRUCTURES			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
					X				X	X			
FORM					X				X	X			
LINE					X				X	X			
COLOR					X				X	X			
TEXTURE					X				X	X			

Overall Level of Contrast: Strong

### Contrast Rating Criteria

Degree of Contrast	Rating Criteria
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Weak	The element contrast can be seen but does not attract attention.
None	The element contrast is not visible or perceived.

### Additional Comments:

The Onshore Substation will be located in the foreground and can be seen in the context of existing development, such as streetlights, utility lines, and commercial and residential development. Although existing development and utilities are visible in the view, due to the close proximity of the Onshore Substation to the viewpoint and the form and scale of the facility, it is anticipated that the Project will introduce strong visual contrast.



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROJECT INFORMATION

<b>KOP: Onshore Substation – Long Beach Skate Park</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 0.43 mi (0.69 km)</b>		<b>Date: 9/12/2021</b>		
<b>Latitude: 40.593785° N</b>		<b>Longitude: -73.666107° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input checked="" type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input checked="" type="checkbox"/> <small>(Partially/Completely)</small>		
<b>Type of User:</b> Recreation	<b>Visual Sensitivity:</b>			
	<i>User Expectation:</i> High	<i>Duration of View:</i> Moderate	<i>Use Volume:</i> High	<i>Overall Sensitivity:</i> High
<b>Has a Photo Simulation Been Created for KOP?</b>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>If yes, Figure Number:</b> Attachment I-3

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
<b>Form</b>	Foreground/Middleground (FG/MG): flat, level Background (BG): not applicable (N/A) Seldom Seen (SS): N/A	FG/MG: narrow triangular patch	FG/MG: tall, narrow, thin; short and long thin, small blocky
<b>Line</b>	FG/MG: horizontal straight	FG/MG: straight, horizontal, vertical; slightly curving	FG/MG: multiple, thin horizontal and vertical straight lines; paralleling
<b>Color</b>	FG/MG: tan/brown (land); grayish-blue (water)	FG/MG: green, dark green	FG/MG: brown, white, blue
<b>Texture</b>	FG/MG/BG: fine to medium, choppy	FG/MG: fine, stippled	FG/MG: fine to moderate

## REPRESENTATIVE PHOTOGRAPH



# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



PROPOSED ACTIVITY DESCRIPTION			
	Land/Water	Vegetation	Structures
Form	N/A	N/A	FG/MG: large, blocky
Line	N/A	N/A	FG/MG: rectangular
Color	N/A	N/A	FG/MG: light beige, gray
Texture	N/A	N/A	FG/MG: fine, medium

CONTRAST RATING												
Level of Contrast												
Features												
Elements	LAND/WATER				VEGETATION				STRUCTURES			
	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
	FORM			X				X		X		
	LINE			X				X		X		
	COLOR			X				X		X		
	TEXTURE			X				X		X		
Overall Level of Contrast: Moderate												

## Contrast Rating Criteria

Degree of Contrast	Rating Criteria
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Weak	The element contrast can be seen but does not attract attention.
None	The element contrast is not visible or perceived.

## Additional Comments:

The Onshore Substation will be partially screened by the existing train bridge. Portions of the Onshore Substation that will be visible include the upper portion of the proposed building, which will be seen in the context of existing commercial and industrial development. At this distance, the Onshore Substation will appear as a co-dominate feature with moderate contrast.

# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



## PROJECT INFORMATION

<b>KOP: Onshore Substation – Island Park Station</b>		<b>Reviewers Name: S. Brooks</b>		
<b>Distance to nearest Project component: 0.19 mi (0.31 km)</b>		<b>Date: 9/12/2021</b>		
<b>Latitude: 40.600392° N</b>		<b>Longitude: -73.655512° W</b>		
<b>Angle of Observation:</b> Level <input checked="" type="checkbox"/> Inferior <input type="checkbox"/> Superior <input type="checkbox"/>		<b>Visibility:</b> Screened <input checked="" type="checkbox"/> Backdropped <input type="checkbox"/> Skylined <input type="checkbox"/> (Partially/Completely)		
<b>Type of User:</b> Residential	<b>Visual Sensitivity:</b>			
	<i>User Expectation:</i> Moderate	<i>Duration of View:</i> Moderate	<i>Use Volume:</i> High	<i>Overall Sensitivity:</i> Moderate
<b>Has a Photo Simulation Been Created for KOP?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>If yes, Figure Number:</b> Attachment I-3		

## CHARACTERISTIC LANDSCAPE DESCRIPTION

	Land/Water	Vegetation	Structures
Form	Foreground/Middleground (FG): flat, level Middleground/Background (MG/BG): not applicable (N/A) Seldom Seen (SS): N/A	FG: scattered	FG: tall, narrow, thin; short and long thin, small blocky, wide
Line	FG: horizontal straight	FG: straight, horizontal, vertical	FG: multiple, thin horizontal and vertical straight lines; paralleling
Color	FG: tan/brown	FG: green, dark green	FG: brown, green
Texture	FG: fine to medium	FG: medium	FG: fine to moderate

## REPRESENTATIVE PHOTOGRAPH





# VISUAL CONTRAST RATING WORKSHEET

Empire Offshore Wind: Empire Wind Project (EW 2)



PROPOSED ACTIVITY DESCRIPTION			
	Land/Water	Vegetation	Structures
Form	N/A	N/A	FG/MG: large, blocky
Line	N/A	N/A	FG/MG: rectangular
Color	N/A	N/A	FG/MG: light beige, gray
Texture	N/A	N/A	FG/MG: fine, medium

CONTRAST RATING												
Level of Contrast												
Features												
Elements	LAND/WATER				VEGETATION				STRUCTURES			
	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
	FORM			X				X				X
	LINE			X				X				X
	COLOR			X				X				X
	TEXTURE			X				X				X
Overall Level of Contrast: Moderate												

## Contrast Rating Criteria

Degree of Contrast	Rating Criteria
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Weak	The element contrast can be seen but does not attract attention.
None	The element contrast is not visible or perceived.

## Additional Comments:

The Onshore Substation will be screened from view by several existing buildings.

## **Attachment I-3                      Visual Simulations**

Single-Frame Daytime Photographic Simulations:

- Onshore Substation Site, NY – Quebec Road/Residential Neighborhood
- Onshore Substation Site, NY – Long Beach Bridge
- Onshore Substation Site, NY – Long Beach Skate Park
- Onshore Substation Site, NY – Island Park Station
  
- Hampton Road Substation Site, NY – Oceanlea Drive
- Hampton Road Substation Site, NY – Masone Point Beach