

Appendix II-M2

Visual Resources Assessment (VRA) - Onshore Facilities - Cardiff

May 2024

Technical Report

Visual Resource Assessment

Atlantic Shores Offshore Wind Project Onshore Facilities - Cardiff
Egg Harbor Township, Atlantic County, New Jersey

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1.0 INTRODUCTION

1.1 Purpose of the Investigation

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) was retained by Atlantic Shores Offshore Wind, LLC (Atlantic Shores) to prepare a Visual Resource Assessment (VRA) for the proposed Onshore Facilities in Egg Harbor Township, New Jersey. Atlantic Shores is proposing the development of two offshore wind energy generation projects (Projects) to be located in federal waters on the Outer Continental Shelf (OCS), in the southern portion of the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Areas OCS-A 0499 (Lease Area). Offshore, the Projects are comprised of up to 200 wind turbine generators and associated foundations, offshore substations (OSS), inter-array cables connecting the wind turbine generators and the OSSs, inter-link cables connecting the OSSs together, and a submarine export cable to be located in both federal waters and New Jersey territorial waters that will connect the OSSs to the onshore facilities. The onshore facility includes the following components:

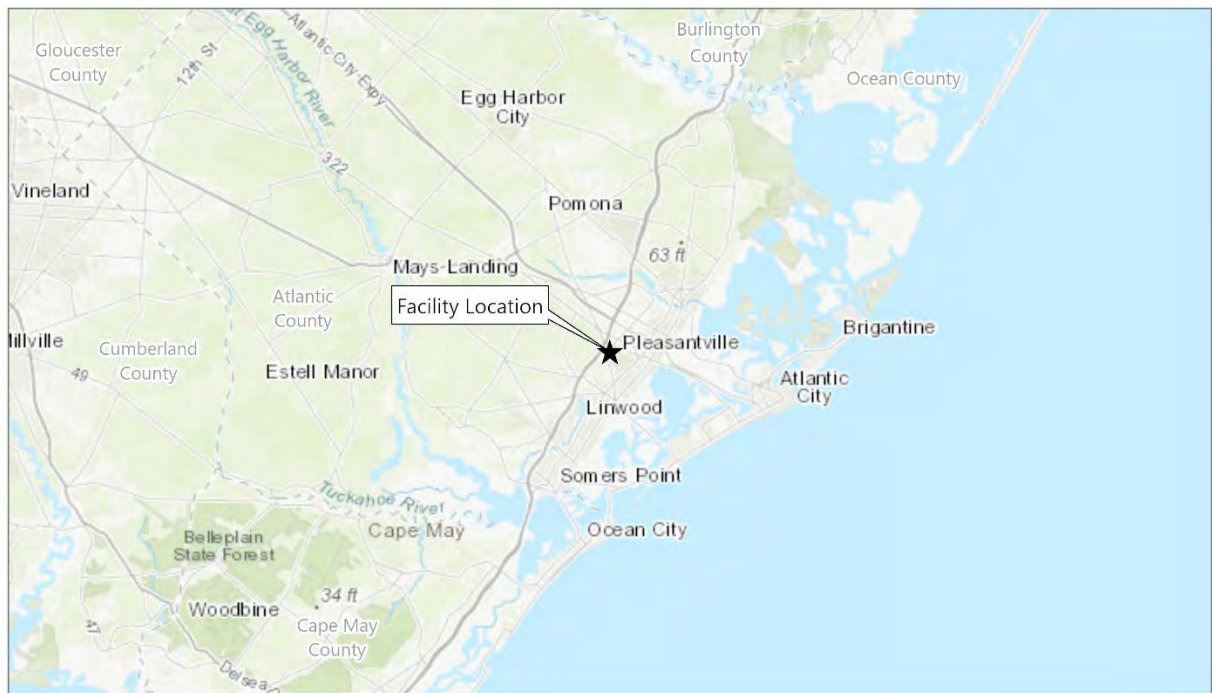
- A landfall location where the submarine export cable comes ashore. This component will consist of underground transition vaults where the submarine cable will connect to the terrestrial transmission circuits in Atlantic City, New Jersey (Atlantic Landfall). The operational submarine export cable and landfall will be buried underground and will not result in visual impacts.
- The Cardiff Onshore Interconnection Cable Route is an underground transmission route following primarily existing linear infrastructure corridors (mainly road) in order to connect to the Cardiff point of interconnection (POI) located in Egg Harbor Township, Atlantic County, New Jersey.
- A new onshore substation and/or converter station on Fire Road (County Road 651) located on a vacant lot and situated on approximately 10.5 acres (0.04 km²) in Egg Harbor Township, Atlantic County, New Jersey, referred to herein as the "Fire Road Substation/Converter Station" or "Site"
- A POI with the existing power grid at the existing Cardiff Substation in Egg Harbor Township, Atlantic County, New Jersey.

Components of the onshore facilities that are proposed to be buried underground would result in temporary visual impacts during construction, including materials delivery, excavation/backfill, construction vehicle activity, and construction personnel. However, these temporary, short-term impacts, and the underground components will be similar in nature to typical, regular disturbance associated with municipal infrastructure improvements and will not have any long-term visual impacts once operational. Therefore, these underground components of the onshore facilities are not addressed in the visual inventory, visibility analysis, or photosimulations. The regional location of the onshore Fire Road Substation/Converter Station is shown on Inset 1.1-1. The purpose of this VRA is to:

- Describe the visible components of the Fire Road Substation/Converter station.
- Define the visual character of the visual study area (VSA).

- Inventory and evaluate the existing visually sensitive resources (VSRs) within the VSA.
- Evaluate the potential visibility of the proposed Fire Road Substation/Converter Station within the VSA.
- Create photosimulations of the proposed Fire Road Substation/Converter Station.
- Assess the potential visual effects associated with the proposed Fire Road Substation/Converter Station.
- Describe proposed mitigation measures that could be implemented to reduce/minimize potential visual impacts.

Inset 1.1-1. Regional Location of the Onshore Facility Area



Basemap: Esri "World Topographic Map" map service

1.2 Project Location and Description

The Fire Road Substation/Converter Station is proposed to be located on a vacant wooded lot on Fire Road (County Road 651) in Egg Harbor Township, Atlantic County, New Jersey. This site is approximately 20-acres and bordered to the north by Fire Road (County Road 651), commercial development to the west, Hingston

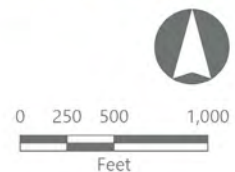
Avenue to the south, and by a mix of apartment complexes, single-family residences, and a hotel to the east (see Inset 1.2-1).

The Fire Road Substation/Converter Station design and specific equipment will depend on whether the transmission cables are high voltage alternating current (HVAC) or high voltage direct current (HVDC). If HVAC is selected, the equipment and facilities installed at the site could include up to four power transformers, static synchronous compensators (STATCOMs), shunt reactors, station service transformers, harmonic filter banks, and a substation control building. If HVDC is selected, the equipment and facilities installed at the site could include a valve hall, service building, transformers, an AC yard and a DC area, a reactor yard, valve cooling towers, AC filters, and a storage building. Based on preliminary design information representative three-dimensional (3D) models of typical Substation/Converter Station options are illustrated in Inset 1.2-2.

Inset 1.2-1. Proposed Fire Road Substation/Converter Station Location



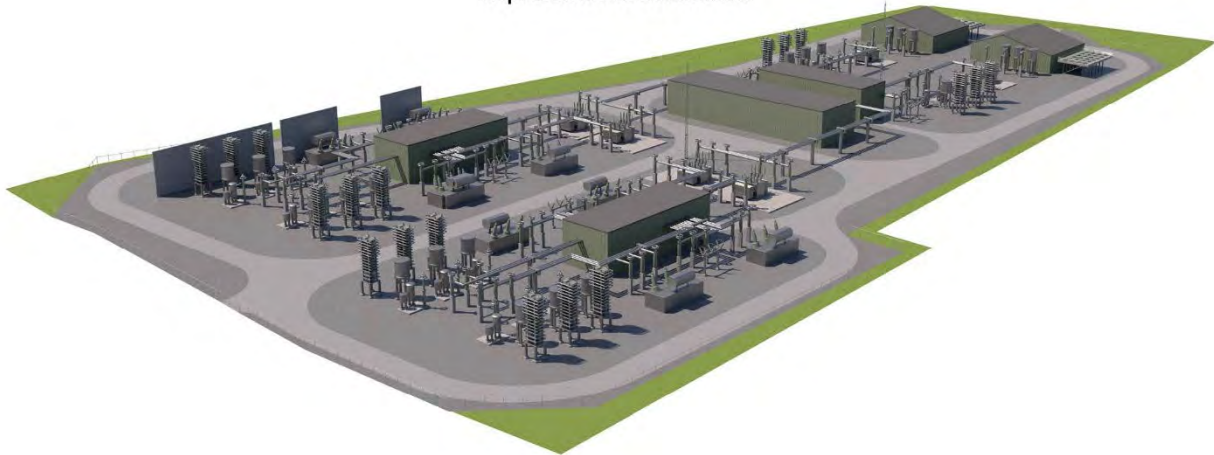
 Onshore Substation/Converter Station Parcel



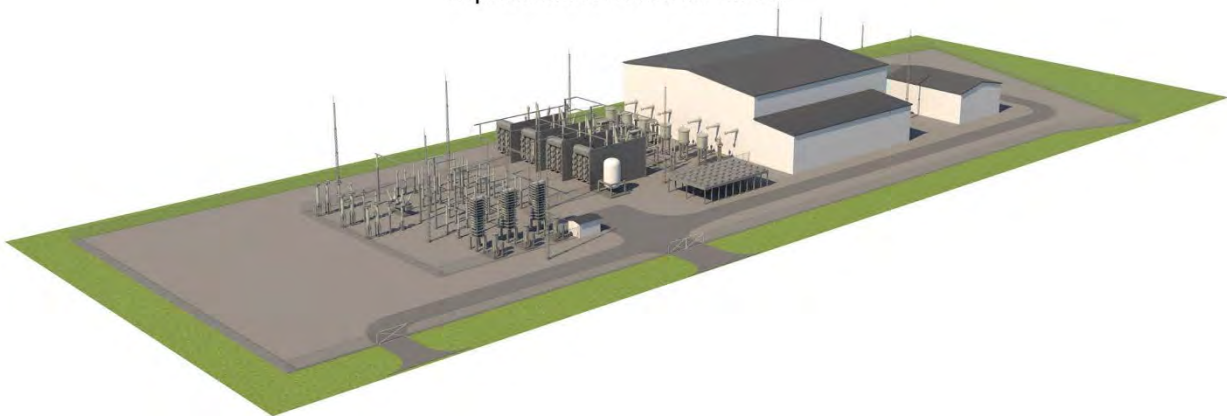
Basemap: Esri "World Imagery" map service

Inset 1.2-2. Typical Rendering of a Representative Substation/Converter Station

Representative Substation



Representative Converter Station

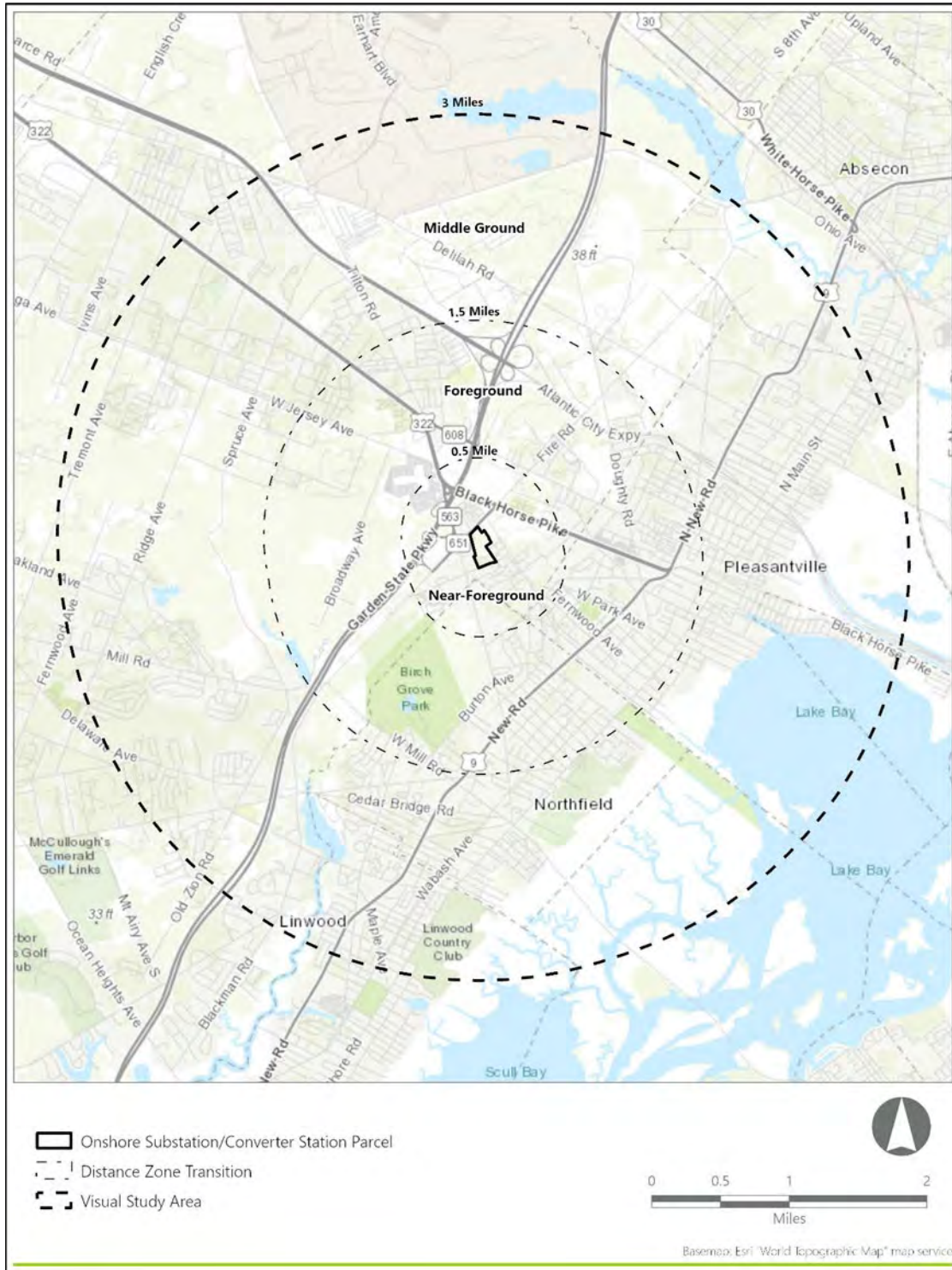


1.2.1 Visual Study Area

In order to define the maximum area of potential visual effect associated with the proposed Fire Road Substation/Converter Station, EDR defined the VSA as the area within 3 mi (4.8 km) of the Facility Site (see Inset 1.2-3). The 3 mi (4.8 km) VSA is consistent with accepted visual assessments completed for aboveground electrical transmission facilities in New York, Rhode Island, and New Hampshire. Additionally, a 3 mi (4.8 km) VSA is considered a conservative study area for facilities of this type, based on human visual acuity thresholds. Assuming the maximum resolution of the human eye is conservatively 28 seconds of an arc or 0.008 angular degrees (Deering, 1998) at 3 mi (4.8 km), human vision can resolve an object that is approximately 2 ft (0.6 m) in diameter. The tallest portions of the onshore Fire Road Substation/Converter Station (the lightning masts) are much narrower than this, therefore, the VSA conservatively encompasses the area in which the Fire Road Substation/Converter Station could potentially have an effect on visual resources. This VSA includes approximately 30.6 mi² (79.3 km²) within Egg Harbor Township, and the Cities of Pleasantville, Linwood, Northfield, and Absecon. Within the VSA, EDR characterized the existing

landscape, identified VSRs of national, regional, and statewide significance, and assessed potential Fire Road Substation/Converter Station visibility. Analyses of potential visual effect will focus on resources within the VSA indicated as potentially visible based on the viewshed analysis (see Section 2.1.1).

Inset 1.2-3. Visual Study Area



1.2.2 Existing Landscape Character

Landscape Character Areas

Definition of landscape character within a given VSA provides a useful framework for the analysis of a Facility’s potential visual effects. Landscape Character Areas (LCAs) within the VSA were categorized based on the similarity of various features, including landform, vegetation, water, and/or land use patterns, in accordance with established VRA methodologies (Smardon et al., 1988; USDA Forest Service, 1995; USDOT Federal Highway Administration, 1981; USDI Bureau of Land Management, 1980). The classification of LCAs was primarily based on the New Jersey Department of Environmental Protection (NJDEP) Land Use/Land Cover (LU/LC) 2015 data set (2019 Update) was used to help define the character and location of various LCAs within the VSA (see Inset 1.2-4). The LCAs defined within the VSA are described below.

Table 1.2-1. Landscape Character Areas

Landscape Character Area	Total Area of Character Area within the Visual Study Area (square miles)	Percent of Total Area ¹ within the Visual Study Area
Forest	9.9	32.3
Medium Density Residential	7.7	25.3
Salt Marsh	3.2	10.5
Commercial	2.6	8.6
Industrial	2.1	6.9
Inland Bay	1.5	4.9
High Density Residential	1.0	3.3
Low Density Residential	1.0	3.3
Recreation	0.7	2.4
Transportation	0.6	1.8
Inland Water	0.2	0.8

¹The VSA includes approximately 30.6 mi² (79.3 km²)

Forest

The Forest LCA is the most prevalent character area within the VSA, comprising approximately 32%. This includes the entire Fire Road Site on which the Fire Road Substation/Converter Station is proposed to be constructed. The Forest LCA is mainly comprised of the New Jersey Pine Barrens, which is represented in the LU/LC data as Coniferous Forest, Deciduous Forest, Atlantic White Cedar Wetlands, and Mixed Wooded Wetlands. This LCA is characterized by relatively large areas of successional and mature forest. Local roads, parkland, and an occasional isolated residence may also occur within this zone but are relatively minor components of the larger forest lots. Large contiguous areas of undeveloped forest land are concentrated in the western and northern portion of the VSA with smaller discrete locations of forest land dispersed throughout the developed areas in the eastern portion of the VSA. Public access to most forest land within the study area is limited, and views within the zone are generally either fully or partially screened by vegetation associated with the canopy and understory. Outward views from this LCA may be available when

directly bordering large open areas such as commercial or industrial areas where partially screened outward views are typically framed by surrounding vegetation, thus limiting the horizontal field of view.

Medium Density Residential

The Medium Density Residential LCA, comprises 25.3% of the VSA. Large contiguous areas of the Medium Density Residential LCA are most prominent along the salt marsh shoreline, east and west of New Road, and south of May's Landing Road. Somewhat less concentrated areas are also located between the Atlantic City Expressway and West Jersey Avenue. Smaller more discrete locations of this LCA are scattered throughout the mainland portions of the VSA including areas within, and directly east of, the Fire Road Site. The Medium Density Residential LCA is characterized by small lot residential neighborhoods. Structures are most commonly two-story residential, wood-framed buildings with peaked roofs, clapboard or shingle siding, and typically surrounded by well-maintained lawns and landscaped yards. East of New Road the architectural style of residential structures is more variable, and roadways define a well-connected neighborhood street grid. Locations west of New Road are more often subdivision developments with a somewhat homogenous architectural style, cul-de-sacs, and limited through streets. Between the more defined subdivision developments remnant forest vegetation has often been maintained along the edges to provide a buffer from major roadways or neighboring developments. Older neighborhoods tend to have more mature trees that provide greater canopy coverage and more visual screening. Typical user activities in this LCA include home and yard use/maintenance, as well as local travel. Views that are available in this LCA are generally limited by the adjacent structures and/or trees that occur at the edges of yards and neighborhoods. Attachment B contains photographic examples from the Medium Density Residential LCA.

Salt Marsh

The Salt Marsh LCA, comprising 10.5% of the VSA, occurs exclusively on the eastern side of the VSA following the coastline and Absecon Creek. The Salt Marsh LCA is identified by the LU/LC under various classifications including Tidal Mud Flats, Phragmites Dominated Coastal Wetlands, Saline Marsh, and Deciduous Scrub/Shrub Wetlands. It is primarily comprised of low growing woody shrub/scrub and herbaceous plants. This area is flooded regularly by ocean tides resulting in small pools or ponds at high tide and exposed mud flats at low tide. Outward views from within this LCA are limited to those traveling by boat through the narrow channels, or from adjacent developed LCAs. To the west, the Salt Marsh LCA is bordered by various developed LCAs including Medium Density Residential, which limit inland views. To the east the waters of the Inland Bay LCA provide open and expansive views toward the neighboring barrier islands just beyond the limits of the VSA. Attachment B contains photographic examples from the Salt Marsh LCA.

Commercial

The Commercial LCA occurs mainly in the central portion of the VSA along Tilton Road (County Route 563) in Egg Harbor Township and Northfield City, and East Black Horse Pike (US Route 40) in Egg Harbor Township and Pleasantville City. Portions of the Commercial LCA also directly abut the Fire Road Site to the west. Comprising 8.6% of the VSA, commercial strip development associated with this LCA is generally defined by big-box stores, large surface parking, and monument signage, which, in combination with overhead electric lines and road signage, often results in extensive visual clutter. However, older commercial developments also occur within smaller neighborhoods such as those in Pleasantville City and include

streets tightly framed by mixed use buildings interspersed with commercial properties. These areas have a more village or community appearance and may also include pedestrian accommodation (sidewalks), in contrast to the aforementioned commercial strip development. Considering the traditional commercial development, views from within the LCA are generally oriented along road corridors and outward views are typically not possible due to densely situated buildings. Similarly, views from within the commercial strip development areas are nearly entirely focused on busy roadways, the stores, or negotiating parking lots. Outward views are also limited by dense development interspaced by woodlots and forest vegetation. Attachment B contains photographic examples from the Commercial LCA.

Industrial

The Industrial LCA comprises 6.9% of the VSA and primarily occurs north of the Atlantic City Expressway. Smaller, discrete occurrences of this LCA are also located adjacent to other LCAs such as Transportation and Commercial. Structures within this LCA are most typically large warehousing and manufacturing facilities surrounded on multiple sides by paved parking areas. Additional land uses within this LCA include solar power generating facilities, extractive mining, and vacant former industrial land. Outward views from within this LCA are primarily directed along the roadways, and generally limited due to obstruction by adjacent commercial and industrial buildings, residential structures, or dense vegetation from the surrounding Forest LCA. Open views may be available at sites with large areas of open pavement (roads and parking lots) that occur within this LCA. Additionally, a large landfill north of the Fire Road Site provides an elevated vantage point, but public access to this Facility is restricted.

Inland Bay

The Inland Bay LCA occurs on the eastern edge of the VSA and makes up 4.9% of the VSA. This LCA is primarily surrounded by the Salt Marsh LCA and small portions of developed land. The character-defining component of this LCA is the presence of open water as a dominant foreground element when viewing eastward, and low growing herbaceous salt marsh vegetation backed primarily by residential development in views to the west. The open water provides opportunities for unobstructed views of more distant features in the surrounding landscape including views beyond the limits of the VSA. Views from the shoreline of the Inland Bay are typically oriented toward the open water to the east. Views from the surface of the Bay (as experienced by boaters) typically include dense residential development or expansive salt marsh ecosystems backed by residential development. Attachment B contains photographic examples from the Inland Bay LCA.

High Density Residential

The High Density Residential LCA, comprising 3.3% of the VSA, occurs primarily in small clusters roughly aligned with the Transportation LCA, or bordering the Medium Density Residential LCA along the shoreline. The High Density Residential LCA abuts the Fire Road Site to the south (Tilton Road Condominiums), and to the north, portions of this LCA (including the Harbor Crossing development) is only separated from the Fire Road Site by a narrow roadway contained within the Commercial LCA. Buildings are relatively new multi-family houses and apartment complexes, or densely situated small lot single-family neighborhoods. The structures in this LCA are typically in close proximity of one another and surrounded by manicured lawns and landscaped yards. The streets are well organized in layout and appearance and are often curvilinear in form. Views available within this LCA are generally limited by the adjacent structures, and/or trees that occur

at the edges of the yards. However, outward views from within this LCA may be available across open parking areas or roadways and into other surrounding LCAs, typically Medium Density Residential or Forest. Many of the tall buildings associated with this LCA may have long-distance outward views from the upper residences due to the elevated viewing position. Attachment B contains photographic examples from the High Density Residential LCA.

Low Density Residential

The Low Density Residential LCA primarily occurs throughout the southwestern portion of the VSA adjacent to large undeveloped forest tracts. Occurring in 3.3% of the VSA, development in this LCA generally consists of large lot single-family residential structures of the mid to late 20th century, in clusters or nestled alone in alcoves cut from the dense surrounding forest. However, portions of this LCA in Egg Harbor Township in proximity to Spruce Ave (County Highway 684) include residences and small farm operations among open agricultural fields. Long-distance views in this LCA are largely restricted to active agricultural settings with open fields or along roadway corridors in forested areas. In such settings views are mostly contained within the LCA and obstructed by the Forest LCA beyond. However, occasional glimpses of neighboring LCAs such as Commercial or Medium Density Residential may be available between trees or structures.

Recreation

The Recreation LCA occurs in small clusters throughout the VSA. Making up approximately 2.4% of the land areas in the VSA, notable examples of this LCA include the Atlantic City County Club (Northfield City), Linwood Country Club (Linwood City), Birch Grove Park (Northfield City), and Childs-Kirk Memorial Park (Egg Harbor Township). These areas occur most frequently near the Medium Density Residential LCA and are most concentrated on or near the shoreline. Locations within the Recreation LCA include sports fields, public parks, basketball and tennis courts, as well as the aforementioned golf clubs. Views within this LCA are typically available from open lawn areas, but become quickly obstructed by surrounding vegetation, and/or structures and buildings associated with neighboring LCAs. However, those situated on or near the Inland Bay or Salt Marsh LCA, may have extended views over water. The typical viewer activity in this LCA includes leisure and active recreation ranging from enjoyment of walking trails to sporting events. Attachment B contains photographic examples from the Recreation LCA.

Transportation

The Transportation LCA includes the Garden State Parkway and the Atlantic City Expressway and comprises 1.8% of the VSA. The Garden State Parkway generally runs north-south through the center of the VSA, and the Atlantic City Expressway traverses the VSA from northwest to east, through the Salt Marsh LCA. These highways are divided, limited access roads dominated by utilitarian, transportation-oriented features including automobiles, large expanses of pavement, guardrails, overpasses, and directional signs. Views within the Transportation LCA are generally focused along the orientation of the highway. Often, adjacent forest vegetation and/or roadside development generally limits outward views. Viewer perspective is generally at ground level, although the LCA is occasionally elevated and offers some more distant peripheral views from overpasses and bridges.

Inland Water

This LCA makes up 0.8% of the VSA, and includes areas of open water such as reservoirs, ponds and streams, including portions of Abescon Creek (Absecon City), tributaries of Patcong Creek (Linwood and Northfield Cities and Egg Harbor Township), the Atlantic City Reservoir (Egg Harbor and Galloway Townships and Absecon City), and Bargaintown Pond (Linwood and Northfield Cities and Egg Harbor Township). Several of these water bodies have publicly accessible areas for water-based recreational activities, including boating and fishing. The character-defining component of this LCA is the presence of open water as a dominant foreground element in the view. The open water also provides opportunities for unobstructed views of more distant features in the surrounding landscape when shorelines are not tightly enclosed by dense vegetation. Views from the shorelines are typically oriented toward the water, while views from the surface of these waterbodies typically include dense shoreline vegetation and occasional residential/industrial development.

1.2.3 Distance Zones

Distance zones are typically defined in visual studies to divide the VSA into distinct sub-areas based on the various levels of landscape detail that can be perceived by a viewer. Three distinct distance zones were developed for this purpose. To define these zones, EDR consulted several well-established agency protocols, including those published by the U.S. Forest Service (USFS), Bureau of Land Management (BLM), and U.S. Department of Transportation (USDOT), to determine the appropriate extent of each distance zone. Based on the characteristics of the specific landscape being evaluated in this VRA, EDR defined distance zones within the VSA (as measured from the proposed Fire Road Substation/Converter Station) as follows:

- Near-Foreground: 0 to 0.5 mile. At this distance, a viewer is able to perceive details of an object with clarity. Surface textures, small features, and the full intensity and value of color can be seen on foreground objects.
- Foreground: 0.5 to 1.5 miles. At this distance, elements in the landscape tend to retain visual prominence, but detailed textures become less distinct. Larger scale landscape elements remain as a series of recognizable and distinguishable landscape patterns, colors, and textures.
- Middle Ground: 1.5 to 3.0 miles. The middle ground is usually the predominant distance at which landscapes are seen. At these distances, a viewer can perceive individual structures and trees but not in great detail. This is the zone where the parts of the landscape start to join together; individual hills become a range, individual trees merge into a forest, and buildings appear as simple geometric forms. Colors will be distinguishable but subdued by a bluish cast and softer tones than those in the foreground. Contrast in texture between landscape elements will also be reduced.

1.2.4 Landscape Character Area Occurrence by Distance Zone

The area of each LCA within each distance zone in the VSA is summarized in Table 1.2-2. As shown in this table, the distribution of LCAs within the individual distance zones is somewhat variable. Thirty-eight percent of the near-foreground zone is made up of the Commercial LCA. The Forest and High Density Residential LCA make up an additional 25% and 14%, respectively. Relatively minor components of the near-foreground zone include Medium Density Residential (11%), Transportation (6%), and Industrial (4%) with the remaining LCA comprising 1% or less of the near-foreground. The foreground zone primarily consists of the Forest

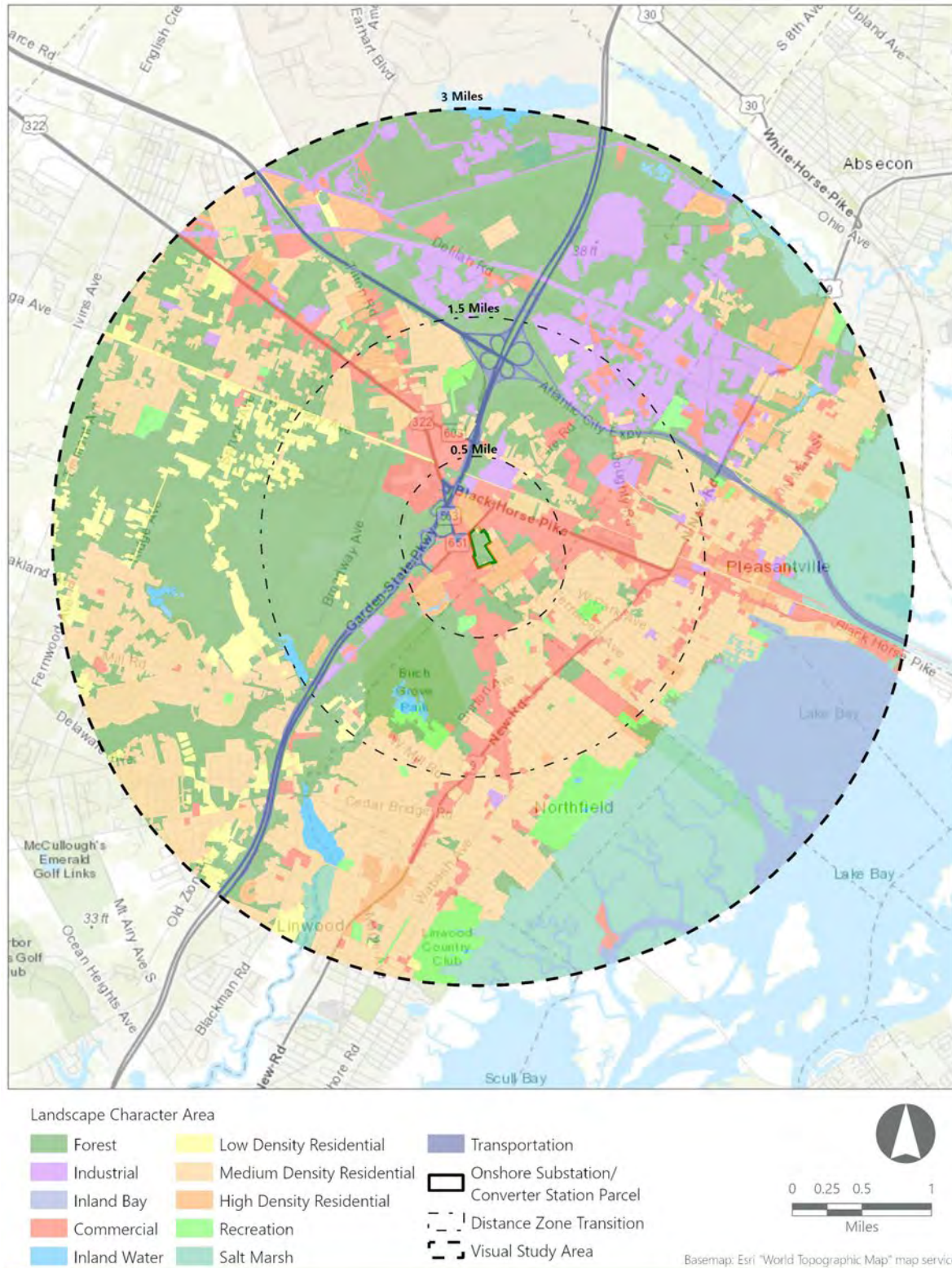
(41%), Medium Density Residential (30%), and Commercial (16%) LCAs. Minor components of the foreground also include Industrial (3%), and Transportation (3%) with the remaining LCA comprising 2% or less of the foreground. The middle ground is primarily made up of Forest (30%), Medium Density Residential (25%), and Salt Marsh (14%). The Industrial, Inland Bay, and Commercial LCAs make up 8%, 7%, and 5% of the middle ground, respectively. Remaining LCAs comprise 4% or less of the middle ground distance zone. Section 2.1.2 discusses the viewshed results relative to each distance zone and LCA.

Table 1.2-2 Landscape Types Occurring in Each Distance Zone

Landscape Character			
Forest	0.3 (25.4%)	2.9 (40.5%)	6.7 (30.1%)
Salt Marsh	-	-	3.2 (14.4%)
Industrial	<0.1 (3.8%)	0.3 (4.4%)	1.7 (7.8%)
High Density Residential	0.2 (14.2%)	0.1 (1.6%)	0.7 (3.3%)
Recreation	<0.1 (1.0%)	0.1 (1.8%)	0.6 (2.6%)
Inland Water	<0.1 (0.3%)	0.1 (0.7%)	0.2 (0.8%)

¹ The VSA includes approximately 30.6 mi² (79.3 km²)

Inset 1.2-4. Landscape Character Areas within the Visual Study Area



1.2.5 Visually Sensitive Resources

The identification of VSRs is an important step in determining locations which may be particularly sensitive to visual change. These resources have generally been identified by national, state, or local governments, organizations, and/or Native American tribes as important sites which are afforded some level of recognition or protection. Avoiding or minimizing impacts to these resources is an important consideration in the planning stages of a project. For this VRA, an inventory of VSRs within the VSA was prepared. This inventory determined that the VSA includes 100 VSRs, which are listed by category and location within the Substation/Converter Station zone of visual influence (ZVI) (see Section 2.1) in Table 1.2-3 and depicted in Inset 1.2-5, below. Attachment A includes a complete list of individual resources.

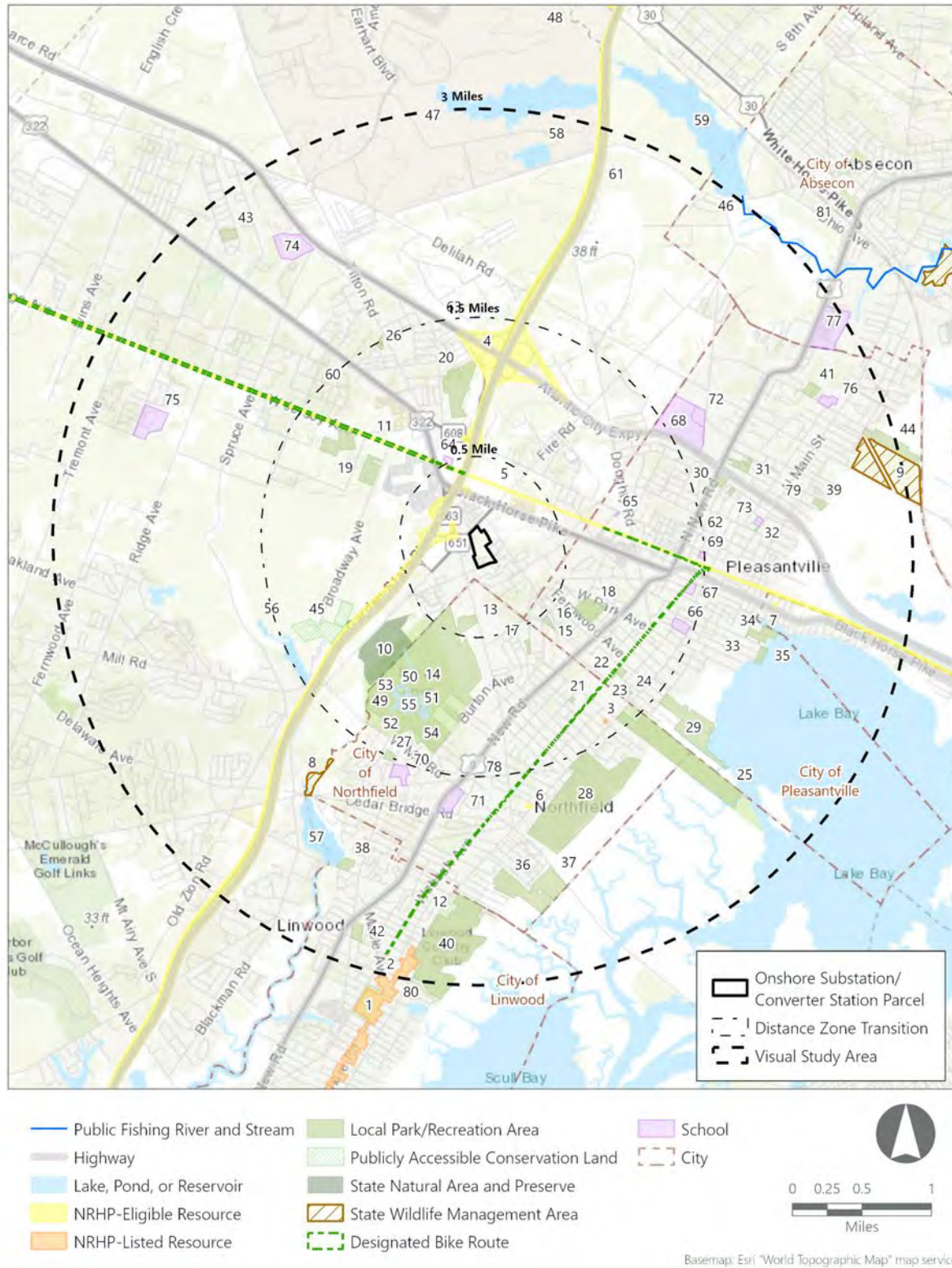
Table 1.2-3 Visually Sensitive Resources within the VSA and Substation/Converter Station ZVI

Visually Sensitive Resources	Total VSRs within the VSA	VSRs within the ZVI
Properties of Historic Significance	Total: 7	Total: 2
National Historic Landmarks (NHL)	0	0
National/State Historic Sites	0	0
Properties Listed on National or State Registers of Historic Places (NRHP/SRHP)	3	0
Properties Eligible for Listing on NRHP or SRHP	4	2
Designated Scenic Resources	Total: 0	Total: 0
Rivers Designated as National or State Wild, Scenic or Recreational	0	0
Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic	0	0
Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks)	0	0
Public Lands and Recreational Resources	Total: 50	Total: 3
National Parks, Recreation Areas, Seashores, and/or Forests [16 U.S.C. 1c]	0	0
National Natural Landmarks [36 CFR Part 62]	0	0
National Wildlife Refuges [16 U.S.C. 668dd]	0	0
State Parks	0	0
State Nature and Historic Preserve Areas	1	0
State Forest Preserves	0	0
Other State Lands	0	0
Wildlife Management Areas & Game Refuges	2	0
State Natural Areas	0	0
State Forests	0	0
State Boat Launches/Waterway Access Sites	0	0
Designated Trails	2	2
Local Parks and Recreation Areas	32	1
Publicly Accessible Conservation Lands/Easements	1	0
Rivers and Streams with Public Fishing Rights Easements	1	0
Named Lakes, Ponds, and Reservoirs	11	0
High-Use Public Areas	Total: 22	Total: 5
State, US, and Interstate Highways	4	3
Schools	14	0

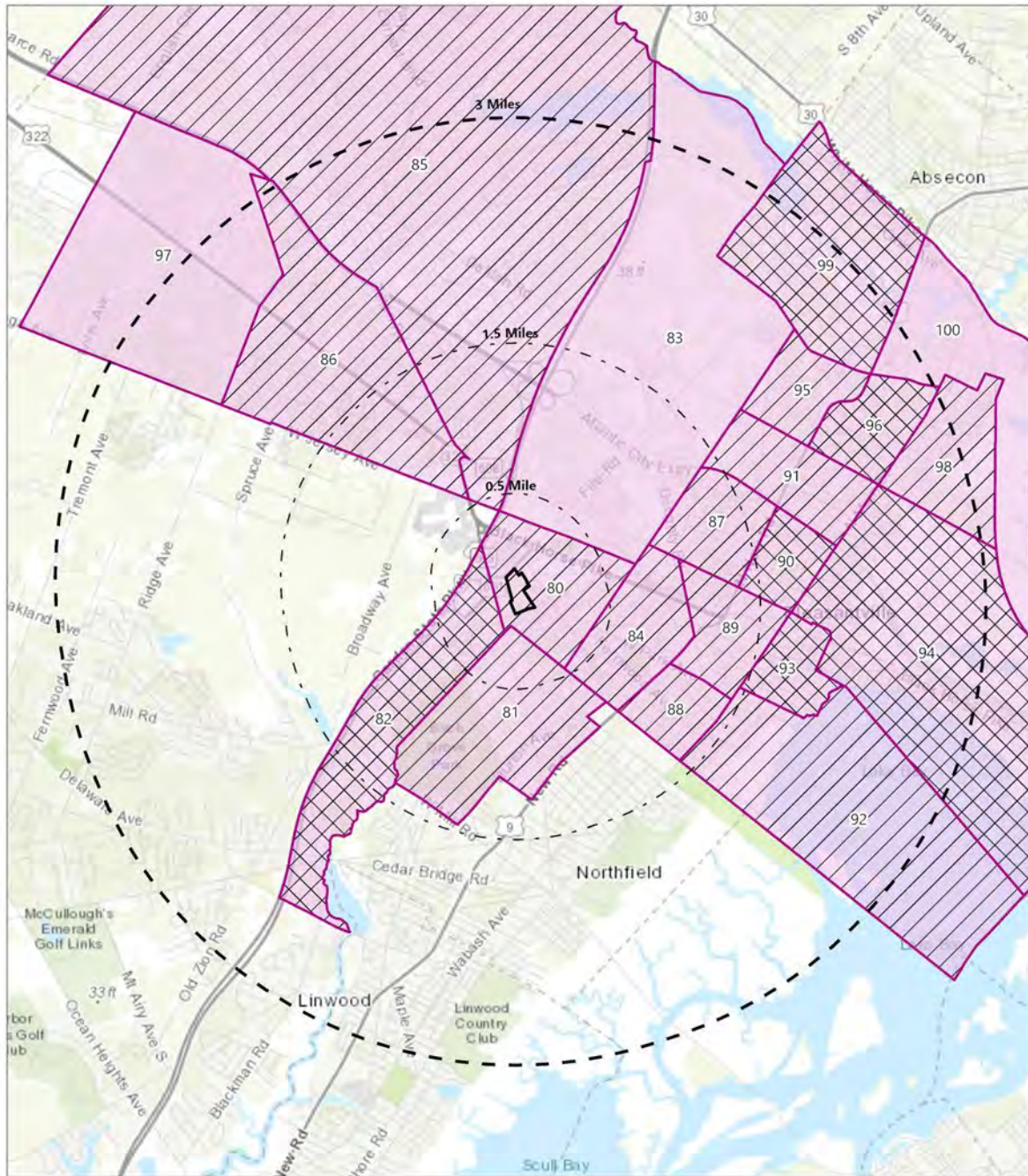
Visually Sensitive Resources	Total VSRs within the VSA	VSRs within the ZVI
Cities	4	2
Environmental Justice Areas	Total: 21	Total: 7
Total Number of Visually Sensitive Resources in the Visual Study Area	100	17

In addition to the identified VSRs within the VSA, 21 Environmental Justice Areas (EJAs) were identified and are illustrated in Inset 1.2-6. Implemented in 1994, Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs attention to a project's environmental and human health effects on minority and low-income populations. While this order addresses actions undertaken by federal agencies, states have additionally identified parameters to define EJAs at the state level to mitigate the potential for disproportionately high and adverse human health or environmental impacts on minority, low-income, and/or Indian tribes and indigenous communities and populations resulting from state jurisdictional actions. All of the census tracts identified as EJAs within the VSA meet the state and federal threshold for inclusion as an EJA based on the percentage of minority population. Eighteen meet the state threshold for low income, and 6 of those meet the federal threshold. No EJAs meet the state threshold for limited English proficiency and federal guidelines to not assess this criterion in EJA determination. The methods for identifying these areas are further described in Section 7.2 of the Construction and Operation Plan (COP).

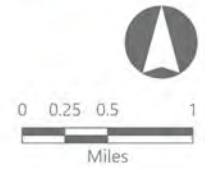
Inset 1.2-5. Visually Sensitive Resources Within the Visual Study Area



Inset 1.2-6. Environmental Justice Areas Within the Visual Study Area



- Environmental Justice Area (21 Total)
- EJA Meets or Exceeds State and Federal Percent of Minority Population (21/All EJAs)
- EJA Meets or Exceeds State Income Threshold (18 EJAs)
- EJA Meets or Exceeds State and Federal Income Threshold (6 EJAs)
- Onshore Substation/ Converter Station Parcel
- Distance Zone Transition
- Visual Study Area



Basemap: Esri "World Topographic Map" map service

2.0 VISUAL RESOURCE ASSESSMENT

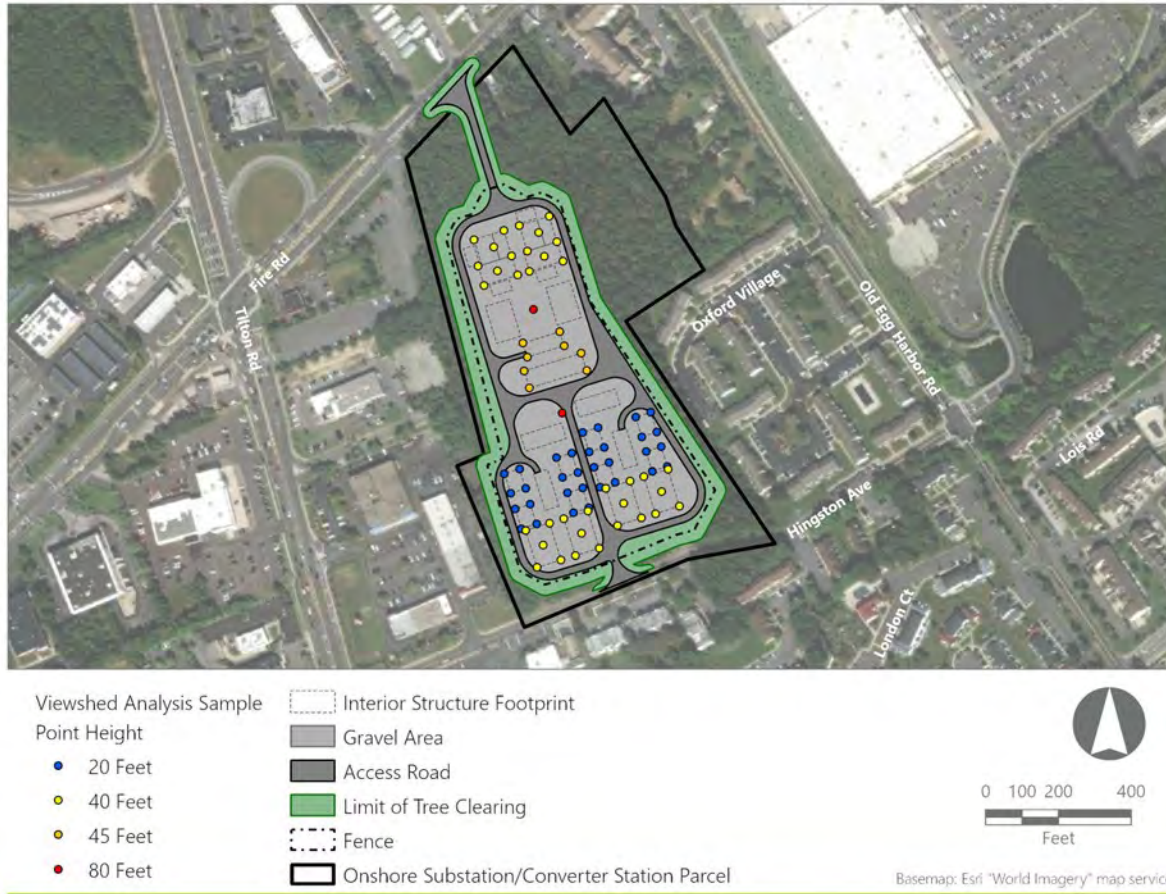
A geographic information system (GIS)-based viewshed analysis was used to assess potential visibility of the proposed Fire Road Substation/Converter Station within the VSA. The viewshed analysis methodology and results are described below.

2.1 Viewshed Analysis

2.1.1 Viewshed Analysis Methodology

To determine the geographic areas of potential visibility of the onshore Fire Road Substation/Converter Station, EDR conducted a lidar-based viewshed analysis. This analysis considers the height of proposed aboveground components of the Facility as anticipated by preliminary site plan designs along with a digital surface model (DSM) representing existing ground-level elevations, vegetation, and structures present in the VSA. The DSM was derived from 2018 United States Geological Survey lidar data with a horizontal resolution of one meter. A GIS analysis of this data was conducted to determine whether a direct line-of-sight would be available from ground-level vantage points to the tallest proposed components. If a direct line-of-sight is available, the position (1-meter grid cell) is coded as visible. The viewshed calculations were based on 78 sample points (see Inset 2.1-1). The lightning masts (the tallest proposed structures) are represented by two sample points each assigned the height of 80 ft (24.4 m), eight sample points represented the control building with a maximum height of 45 ft (13.7 m), 36 sample points with a maximum height of 40 ft (12.2 m) represented the represented the STATCOM and harmonic filter, and 32 sample points with a maximum height of 20 ft (6.1 m) represented the shunt reactors. The sample point locations were determined using a preliminary site plan illustrating the proposed Fire Road Substation/Converter Station layout. The resulting geographic areas of potential visibility are referred to as the Fire Road Substation/Converter Station Zone of Visual Influence (ZVI).

Inset 2.1-1. Viewshed Analysis Sample Points Representing the Fire Road Substation/Converter Station



To assure an accurate assessment of potential visibility of the Cardiff onshore Fire Road Substation/Converter Station, a few modifications were made to the lidar-derived DSM prior to analysis. Transmission lines and roadside utility lines that are included in the lidar data are mis-represented in the DSM as solid walls/screening features. In order to correct this inaccuracy, DSM elevation values within such utility corridors were replaced with bare earth elevation values. Additionally, all areas within the proposed limits of disturbance were modeled with bare earth elevation to reflect potential site clearing/demolition in these locations. This modified DSM was then used as a base layer for the viewshed analysis. Once the viewshed analysis was completed, a conditional statement was used within ArcGIS® to set the Fire Road Substation/Converter Station visibility to zero in locations where the DSM elevation exceeded the bare earth elevation by 6 feet or more, indicating the presence of vegetation or structures that exceed viewer height. This was done for two reasons; 1) in locations where trees or structures are present in the DSM, the viewshed would reflect visibility from the vantage point of standing on the tree top or building roof, which is not the intent of this analysis, and 2) to reflect the fact that ground-level vantage points within buildings or areas of vegetation exceeding 6 ft (1.8 m) in height generally will be screened from views of the Fire Road Substation/Converter Station.

2.1.2 Viewshed Analysis Results

The viewshed analysis results suggest that approximately 0.5% (97.7 acres) of the VSA could have some level of visibility of the Fire Road Substation/Converter Station. In other words, 99.5% of the VSA will not have visibility of the proposed Fire Road Substation/Converter Station. Additionally, 13.5% (13.9 acres) of the visible area indicated by the viewshed analysis is located on the Facility Site itself. Meaning that, beyond the Fire Road Site, approximately 0.4% of the VSA is suggested to have some level of visibility of the Fire Road Substation/Converter Station. Locations beyond the Fire Road Site indicated to have visibility are most concentrated within the near-foreground distance zone and are typically limited to locations with open expanses of asphalt and such as open parking lots at commercial sites and roadway corridors such as Tilton Road, Hingston Avenue, and Fire Road (County Road 651). Potential visibility in the near-foreground distance zone is also indicated in some residential areas such as the Harbor Crossing manufactured home park located north-northwest of the Facility Site, and the Tilton Club Condominiums located south of the Facility Site. Considering the Harbor Crossing community, some degree of visibility can be attributed to the conservative roadside clearing assumptions used in the viewshed analysis (see Section 2.1.1). Actual visibility is likely to be limited to a small portion of the roadway corridors and portions of open residential yards within this development. On the north side of the Fire Road Site a vegetative buffer will remain in place and the visibility indicated by the viewshed analysis in the Harbor Crossing community appears to coincide with the proposed Facility access road to the Fire Road Site. As such, it is anticipated that views from within the community will be discrete in nature and will only include a portion of the Facility framed by the cleared access road. On the southern portions of the Fire Road Site, where it is assumed that a vegetative buffer will not remain due to site constraints¹, it is likely that the Tilton Road Condominiums will have open, minimally obstructed views into the site, as indicated by the viewshed analysis. Smaller areas of discrete visibility within the near-foreground distance zone also occur along the Garden State Parkway and Old Egg Harbor Road and in locations with limited vegetation, such as the Tilton Road Golf Range Pro Shop and the Penn Jersey Building Materials site. In addition, less concentrated areas of potential visibility are indicated throughout the near-foreground and foreground distance zone where roads, parking areas, and open lawns with minimal vegetative screening allow for views of the Fire Road Substation/Converter Station above the treetops or between the existing vegetative buffers. In the foreground distance zone, the viewshed analysis also indicates potential visibility from open transportation corridors oriented toward the Fire Road Site, including Tilton Road and Fire Road (County Road 651) west of the Site. The viewshed analysis suggests that the potential visibility along Tilton Road extends beyond the foreground into the middle ground distance zone. More discrete areas of visibility in the foreground distance zone, attributed to limited vegetative screening in the direction of the Fire Road Site, also occur along transportation corridors such as areas along Black Horse Pike (State Route 40) north of the Site, the Garden State Parkway north-east of the site, West Jersey Avenue, West Jersey and Atlantic Railroad Historic District/Atlantic County Bikeway west of the site, Elderberry Avenue, and Uibel Avenue. Foreground visibility also occurs in the parking areas associated with the Harbor Square shopping center, and a narrow band of visibility is indicated within the

¹ For the purposes of this VRA in order to assess the most conservative visibility case it has been assumed that, due to site constraints, a vegetative buffer will not remain along the Hingston Avenue portion of the Fire Road Site. However, to the degree practicable preservation of the existing vegetation along Hingston Avenue will be evaluated once the Fire Road Substation/Converter Station proceeds to final design.

Atlantic City Cemetery/Greenwood Cemetery. In the middle ground zone, potential visibility was also indicated at Atlantic County Utilities Landfill located northwest of the Facility Site, due to the landfill's elevated position. However, there is no public access to this vantage point. To the west of the Fire Road Site visibility limited in extent and duration is also indicated on Ridge Avenue. Inset 2.1-1 illustrates locations indicated to have potential Fire Road Substation/Converter Station visibility and identifies locations in which potential visibility will be limited to views of the upper portions of the narrow lightning masts.

Table 2.1-1 presents the viewshed results, broken down by LCA assuming the ZVI occupies a total of 97.7 acres of the VSA. As indicated in this table, the majority (42.9% or 41.9 acres [0.2 km²]) of the potential Fire Road Substation/Converter Station visibility would occur within the Commercial LCA and 16.4% or 16.0 acres occurs in the Forest LCA where the Facility Site is located. The High Density Residential LCA constitutes approximately 16.2% or 15.8 acres of the ZVI and only 13.1 acres or 13.4% of the ZVI is made up of the Industrial LCA. Considering the Transportation and Medium Density Residential LCAs, these areas make up approximately 6.6 acres (6.8%) and 2.8 acres (2.9%), respectively. The remaining LCA (including Inland Water, Recreation, and Low Density Residential) are indicated to make up 1.0% or less of the ZVI. The Inland Bay and Salt March LCAs are not indicated to have potential Fire Road Substation/Converter Station visibility.

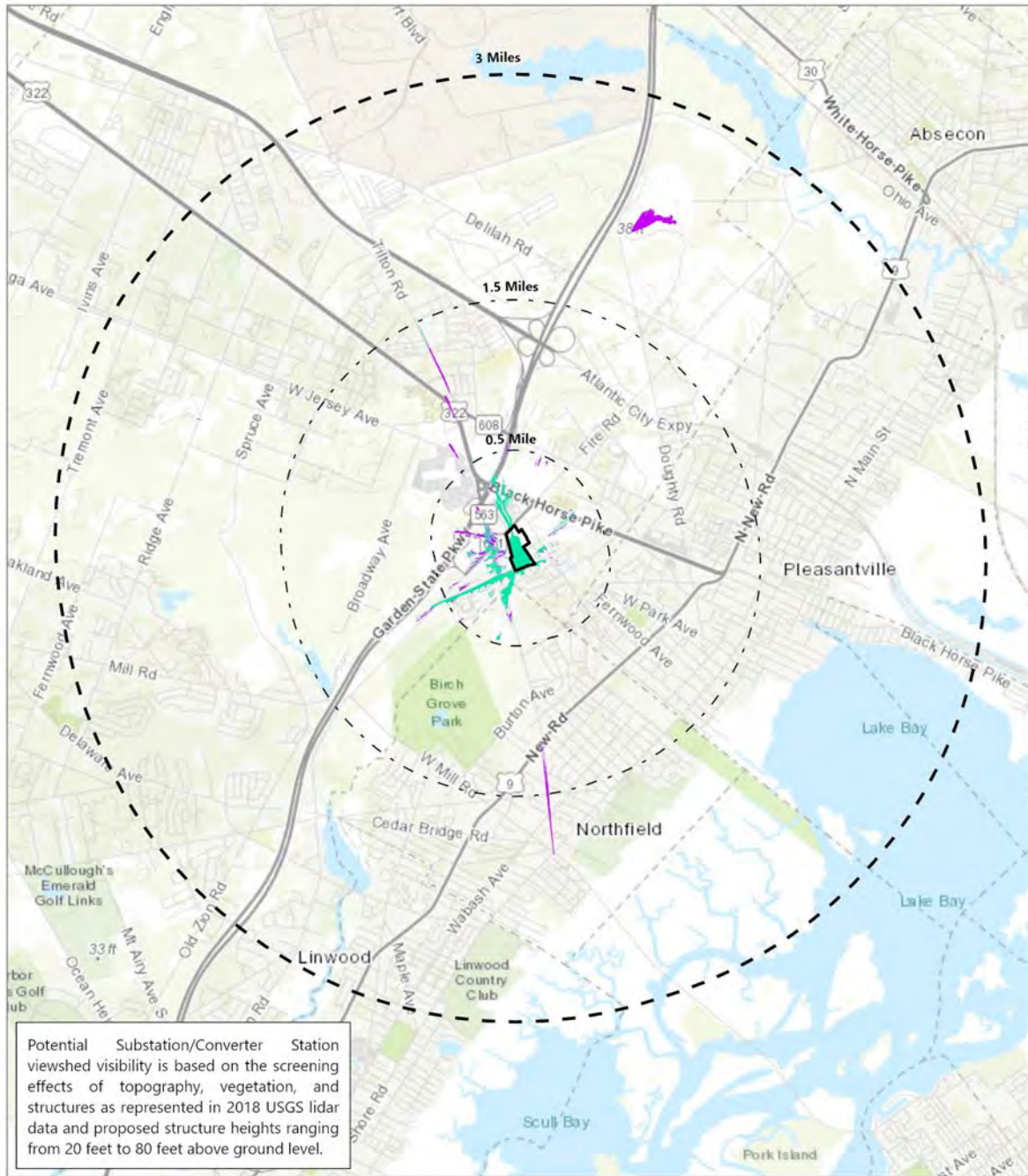
Table 2.1-1 Landscape Types Within the VSA

Landscape Character Area	Acres Within VSA	Percentage of VSA ¹	Acres within ZVI	Percentage of ZVI ²
Inland Bay	958.1	4.9	-	-
Salt Marsh	2,063.6	10.5	-	-
Commercial	1,681.9	8.6	41.9	42.9
Medium Density Residential	4,949.0	25.3	2.8	2.9
Industrial	1,346.5	6.9	13.1	13.4
Transportation	356.2	1.8	6.6	6.8
Low Density Residential	651.9	3.3	0.4	0.4
Forest	6,330.1	32.3	16.0	16.4
High Density Residential	651.0	3.3	15.8	16.2
Recreation	461.0	2.4	1.0	1.0
Inland Water	148.8	0.8	<0.1	<0.1
Total	19,598	100	97.7	100

¹ The VSA includes approximately 19,596 acres (numbers reflected in totals above are rounded and may result in variation)

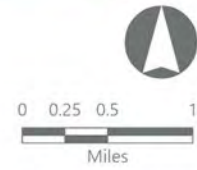
² The ZVI includes approximately 97.7 acres

Inset 2.1-2. Viewshed Analysis Results



Potential Substation/Convertor Station viewshed visibility is based on the screening effects of topography, vegetation, and structures as represented in 2018 USGS lidar data and proposed structure heights ranging from 20 feet to 80 feet above ground level.

- Potential Visibility of Proposed Substation/Convertor Station Excluding Lightning Masts
- Potential Visibility of Proposed Substation/Convertor Station Including Lightning Masts
- Onshore Substation/Convertor Station Parcel
- Distance Zone Transition
- Visual Study Area



Basemap: Esri "World Topographic Map" map service

2.1.3 Viewshed Analysis Results from Environmental Justice Areas

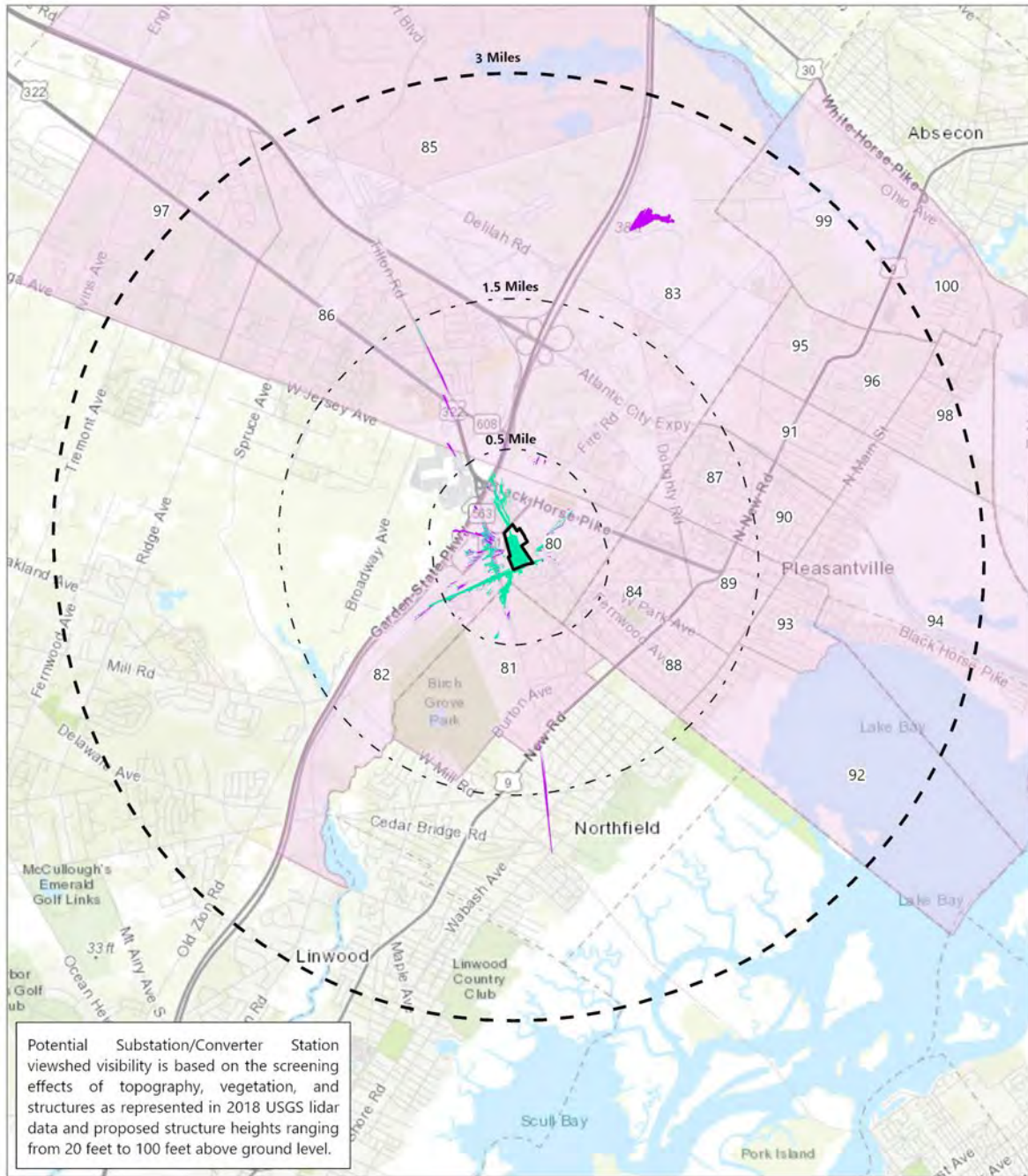
A total of 23 EJAs were identified within the VSA. As shown in Table 2.1-2, the viewshed analysis results suggest that 7 EJAs may have visibility of some portion of the Fire Road Substation/Converter Station. The viewshed analysis results suggest that visibility within the individual EJAs would occur within a range from less than 0.1% to 10.5%. The Fire Road Site is located within EJA Map ID 82 which is indicated to have the greatest potential visible area at approximately 40 acres, or 10.5% of the EJA. EJA Map ID 84, located approximately 0.1 mile from the Fire Road Site, has the next highest concentration of visible area and is similarly located entirely in the VSA. Twenty-six acres (4.2%) of this EJA will have views of some portion of the Fire Road Substation/Converter Station. Of the remaining EJAs indicated to have some level of Facility visibility less than 1% of their land area will have views of the Fire Road Substation/Converter Station (See Inset 2.1-2).

Table 2.1-2 Viewshed Analysis Results by Environmental Justice Areas Census Tracts

MAP					
82	340010118032	382	382	40	10.5
84	340010118031	621	621	26	4.2
86	340010122003	326	326	-	-
88	340010117011	974	965	2	0.2
90	340010122002	163	163	-	-
92	340010119003	156	156	-	-
94	340010121002	1,274	894	-	-
96	340010120002	1,662	1,016	-	-
98	340010119005	223	223	-	-
100	340010120001	351	190	-	-
102	340010103002	683	54	-	-

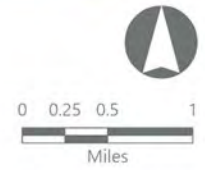
¹Percentage of EJA visible includes only areas within the VSA

Inset 2.1-3. Viewshed Analysis Results from Environmental Justice Areas



Potential Substation/Convertor Station viewshed visibility is based on the screening effects of topography, vegetation, and structures as represented in 2018 USGS lidar data and proposed structure heights ranging from 20 feet to 100 feet above ground level.

- Environmental Justice Area
- Potential Visibility of Proposed Substation/Convertor Station Including Lightning Masts
- Potential Visibility of Proposed Substation/Convertor Station Excluding Lightning Masts
- Onshore Substation/Convertor Station Parcel
- Distance Zone Transition
- Visual Study Area



Basemap: Esri "World Topographic Map" map service

2.1.4 Visibility Results from Visually Sensitive Resources

The viewshed analysis suggests that 17 (17%) of the 100 VSRs occurring within the 3-mile radius VSA could have potential visibility of the proposed Fire Road Substation/Converter Station. A description of these resources, their distance from the Fire Road Site, and the nature and degree of potential visibility as indicated by the viewshed analysis, is provided in Table 2.1-3 and Inset 2.1-3. Attachment A contains a full list of VSRs keyed to Inset 2.1-2, and potential Fire Road Substation/Converter Station visibility.

Table 2.1-3 Visually Sensitive Resources with Potential Visibility of the Proposed Fire Road Substation/Converter Station

Resource			
Sites Eligible for Listing on NRHP or SRHP			
Garden State Parkway Historic District (Atlantic)	4	0.1	<p>The Garden State Parkway Historic District (Atlantic) crosses the VSA roughly north to south approximately 0.2 mi (0.3 km) northwest of the Fire Road Site. Potential visibility of the Fire Road Substation/Converter Station is indicated at discrete locations along a 0.5 mile stretch from the Fire Road (County Road 651) access ramp to the Washington Avenue (County Route 608) overpass. Actual visibility from these locations is anticipated to be significantly screened or obscured by intervening vegetation and development. While some portions of the Fire Road Substation/Converter Station may be visible it is unlikely that these glimpses will hold viewer attention particularly for drivers who will be entirely focused on navigating traffic on this busy section of roadway. Shortly after installation users of the Parkway familiar with the area may recognize a reduction of vegetation on the horizon, but it is anticipated that this effect will be limited and will not have an effect on user enjoyment in this already heavily developed location. Key observation points (KOPs) 31 and 32 illustrate views from this resource in the direction of the Fire Road Site.</p>
West Jersey and Atlantic Railroad Historic District	5	0.3	<p>The West Jersey and Atlantic Railroad Historic District crosses the VSA roughly northeast to southwest approximately 0.3 mi (0.5 km) north of the Fire Road Site. The viewshed analysis suggests an area of potential visibility extending from the open parking areas surrounding the Harbor Square shopping center in the foreground distance zone. In this location the historic district is collocated with the Atlantic County Bikeway. Visibility from this location would be limited to the upper portions of the lighting masts and would require viewing along a specified line-of-sight. It is unlikely that viewers in this location will be able to distinguish the narrow lightning masts above the three tops from other distracting features in the view, including transmission poles, streetlights, signs, and overhead distribution wires. This resource also overlaps with an area of visibility where the railroad passes under the Garden State Parkway. It is anticipated that this area of visibility is attributed to the Garden State Parkway which will substantially screen views from the historic district as it passes under the Parkway. Discrete bands of visibility east of the Garden State Parkway are also indicated by the viewshed analysis where the Egg Harbor Township Master Plan Re-Examination Report (Adopted in June 2017) suggests that there are on-going efforts to expand the Atlantic County Bikeway through this area. However, this portion of the railway is included in the New Jersey Department of Transportation's Railroad Network Map (2019) as an active spur line known as Pleasantville Industrial. If the spur line becomes inactive and a multimodal trail is developed, usership is likely to increase. However, even with an increase in users these short duration views through existing vegetation</p>

Resource Name	Map ID	Distance from the Facility	Description of Potential Visibility
			and structures are likely to go un-noticed. KOP 35 illustrates a view from this resource in the direction of the Fire Road Site.

Bike Trails/Routes

Linwood Bike Path	11	0.4	The Linwood Bike Path (Pleasantville-Somers Point) is a 6.5-mi (10.5 km), primarily residential corridor starting in Somers Point and ending in Pleasantville. A portion of the corridor runs along the West Jersey and Atlantic Railroad Historic District from Devins Lane to Chestnut Avenue before turning southwest and following an offroad route. The viewshed analysis indicates potential visibility at from this resource in the middle ground distance zone as it crosses Tilton Road. Potential visibility in this area is limited to the upper portions of the lightning masts viewed above treetops on the horizon. Views of the of the narrow Fire Road Substation/Converter Station lightning masts at this distance and requiring users to turn their head away from the lane of travel are likely to go un-noticed particularly as users are navigating a roadway crossing.
Atlantic County Bikeway	12	0.8	The Atlantic County Bikeway runs 7.6 mi (12.2 km) from Harbor Square in Egg Harbor Township to the Atlantic County Institute of Technology in Hamilton Township. Within the VSA the Atlantic County Bikeway is collocated with portions of West Jersey and Atlantic Railroad Historic District that are west of the Garden State Parkway and potential visibility is described above.

Local Parks and Recreation Areas

Tilton Road Golf Range Pro Shop	13	0.3	The Tilton Road Golf Range Pro Shop is a small driving range and pro shop located on Tilton Road approximately 0.3 mile southwest of the Fire Road Site. Visibility of the Fire Road Substation/Converter Station from this local recreation resource is most concentrated at the back of the field associated with the driving range where users are unlikely to be. Narrow bands visibility is also indicated to cross the parking area and driving range, but viewers using the driving range will typically be turned away from the Fire Road Site. In instances when users are viewing in the direction of the Fire Road Site it is anticipated that the limited views of the Fire Road Substation/Converter Station available above intervening vegetation and structures will be difficult to distinguish amongst a plethora of other visual elements on Tilton Road.
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State, US, and Interstate Highways

Resource Name	Map ID	Distance from the Facility	Description of Potential Visibility
US Route 40	58	0.2	US Route 40, also known as East and West Black Horse Pike, traverses the VSA on a northeast and southwest orientation approximately 0.2 mile north of the Fire Road Site. The viewshed analysis results suggest that proposed Fire Road Substation/Converter Station visibility will cross this roadway at discrete locations throughout the near-foreground. Visibility is also indicated to extend along US Route 40 in the foreground distance zone where it takes a slight northward turn aligning users toward the Fire Road Site. Visibility in the near-foreground distance zone is anticipated to be more limited than indicated by the viewshed analysis due to intervening vegetation and structures. In addition, viewers from this resource, traveling at approximately 50 miles per hour, will likely be focused on the roadway making it difficult to distinguish the Fire Road Substation/Converter Station components from other elements in these short duration views. Viewers familiar with the area are most likely to recognize a decrease in tree canopy viewed on the horizon, but this reduction is unlikely to be significant enough to hold their attention. Visibility in the foreground distance zone is limited to the upper portion of the lighting masts which will be difficult to resolve at this distance and against other elements on the horizon. KOP 28, 29, 30, and 32 illustrate views from this resource in the direction of the Fire Road Site from this resource.
Garden State Parkway (NJ 444)	59	0.2	This resource is described under the Garden State Parkway Historic District (Atlantic), above.
US 9	60	0.9	US Route 9 crosses the VSA in a roughly north to south direction. The viewshed analysis results suggest potential visibility may occur in the vicinity of the US Route 40 intersection. Viewers on US Route 9 will likely be focused on the roadway. The combination of distance, motion, and screening from intervening vegetation and structures would likely diminish any potential visual effects resulting from the Fire Road Substation/Converter Station.

Cities

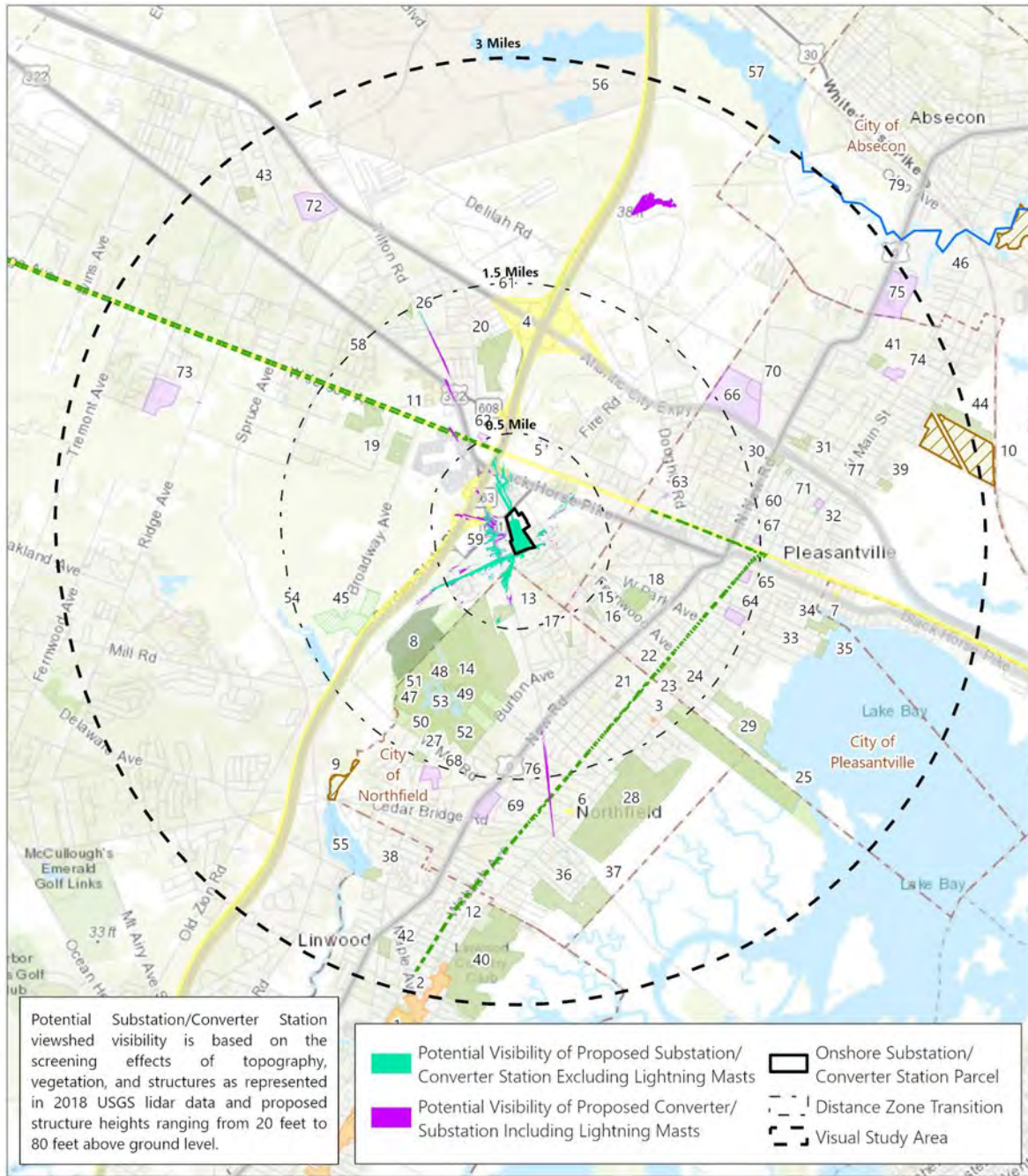
City of Northfield	76	0.1	The City of Northfield is located approximately 0.1 mile southwest of the Fire Road Site at its nearest point. While visibility within large resources such as a city is typically variable across its land area, the City of Northfield is indicated to have two somewhat distinct locations of visibility. Potential visibility in the near-foreground is primarily limited to locations on Tilton Road and adjacent commercial locations with open parking lots containing limited vegetation. Views of the Fire Road Substation/Converter Station may be available from these locations. However, the removal of the Fire Road Site vegetation is likely to be the most recognizable change, and visibility of the Fire Road Substation/Converter Station components is likely to result in minimal visual effects. Potential visibility in the foreground and middle ground distance zones is limited to the Tilton Road corridor. Views in this location will be limited to the upper portion of the
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Resource Name	Map ID	Distance from the Facility	Description of Potential Visibility
			Fire Road Substation/Converter Station lightning masts as viewed above the treetops. At these distances, it will be difficult for viewers to distinguish the Fire Road Substation/Converter Station components from other elements on the horizon. In addition, due to the viewshed process to remove overhead lines as screening elements (Section 2.1.1) visibility from this location will be more limited than illustrated by the viewshed analysis.
City of Pleasantville	77	0.4	The City of Pleasantville is located approximately 0.4 mile from the Fire Road Site at its nearest point. However, visibility of the Fire Road Substation/Converter Station is only indicated to occur within the foreground distance zone along a narrow line-of-sight predominantly contained within the Atlantic City Cemetery/Greenwood Cemetery. Views from this location would be limited to the upper portion of the Fire Road Substation/Converter Station lightning masts. At such distances, these narrow profile features of the Fire Road Substation/Converter Station are likely to go un-noticed by viewers.

Environmental Justice Areas

Environmental Justice Areas	80-83 and 85-87	0.0 – 0.8	The viewshed analysis indicates potential visibility within 7 of the 21 EJAs. As described in Section 1.2.5 all EJAs within the VSA meet or exceed state and federal minority population percentages. Of the 5 EJAs with potential visible area in the near-foreground distance zone all except for Map ID 85 additionally meet or exceed state and federal income thresholds, but only Map ID 84 additionally meets or exceeds both state and federal income thresholds. Of the two EJAs within the foreground distance zone both meet or exceed state income thresholds. KOPs 1-21, 23-33, 35, and 36 illustrate views from EJAs with land area in the ZVI. Since the EJAs occur over a large percentage of the VSA, the visibility and potential visual impacts will be commensurate with the viewshed results described in Section 2.1.2 and the visual simulation results described in Section 2.3.3.
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Inset 2.1-4. Visibility from Visually Sensitive Resources



Basemap: Esri "World Topographic Map" map service

2.2 Field Verification

2.2.1 *Field Verification Methodology*

EDR personnel conducted field review within the VSA on two separate occasions: November of 2021 and November of 2022. The purpose of these site visits was to verify the boundaries of the LCAs, the viewshed analysis results, to determine potential visibility within the VSA, and to obtain representative photographs from the identified LCAs. On both site visits, the weather conditions were clear and sunny, providing ideal visibility toward the Fire Road Site.

During the field verification, an EDR field crew explored public roads and visited public vantage points within the VSA to document points from which the Fire Road Substation/Converter Station was indicated as visible by the viewshed analysis. This determination was made based on the known location and dimensions of the Fire Road Substation/Converter Station components, the location and characteristics of intervening vegetation and structures, and the visibility of existing identifiable landscape features near the Fire Road Site, which served as location and scale references. Photos were taken from 38 representative KOPs within the VSA. The locations of all KOPs visited during the field review are depicted on Inset 2.3-1. A representative photograph from each KOP is included in Attachment B.

Photographs were obtained using digital SLR cameras with a minimum resolution of 24 megapixels. All photos were obtained at lens settings (focal lengths) between 24 and 35 mm (which equates to between 35 and 50 mm on a 35 mm sensor equivalent). A 50 mm focal length (35mm sensor equivalent) is the standard typically used in visual studies because it provides an accurate scale perspective (minimal distortion between foreground, mid-ground, and background elements). However, when projects are viewed in the near-foreground, 50 mm photographs may not provide sufficient context and therefore, do not capture the range of potential visual effects associated with a large Fire Road Substation/Converter Station development. To adjust for this, slightly wider-angle photos were taken alongside the standard 50 mm photographs. KOP locations were recorded using handheld GPS units and high-resolution lidar data (to determine elevation). The time and location of each photograph were recorded in a digital data collection system, which also provided real-time viewer position data and high-resolution aerial photography verification. To assist in orienting the viewer, the position of the Fire Road Site was plotted on the field GPS and real-time view position and direction of view was provided to the field photographer. Where potential views existed, KOPs photographed during field review generally represented the most open, unobstructed available views toward the proposed Fire Road Site.

2.2.2 *Field Verification Results*

Field verification suggests that the areas of potential visibility of the proposed Fire Road Substation/Converter Station would be significantly less frequent than suggested by the viewshed analysis. Longer distance views throughout the VSA are limited and in most places obstructed by mature vegetation, which occurs throughout the VSA along streets and neighborhoods, and in concentrated clusters on undeveloped land. As discussed in Section 2.1.1, the viewshed analysis does not consider the screening

provided by roadside vegetation due to the frequent presence of overhead utility lines, which appear in the analysis as screening features if not removed. Other factors that will limit the actual visibility of the proposed Fire Road Substation/Converter Station include the narrow, slender profile of the masts, which do not generally attract viewer attention, particularly when viewed amongst foreground to background mature vegetation. Review of potential Fire Road Substation/Converter Station visibility from visually sensitive areas throughout the study area is summarized in Section 2.1.2. Observations based on EDR's field review include the following:

- As indicated in the viewshed analysis results, Fire Road Substation/Converter Station visibility will primarily be limited to commercial areas within the near-foreground distance zone.
- While the viewshed analysis indicates discrete areas of visibility on roadways throughout the VSA, field verification suggested that anticipated visibility from most roadways will be limited to the upper most portion of the proposed Fire Road Substation/Converter Station due to screening structures such as wires, road signs, buildings, and vegetation typically found along these roads.
- Anticipated visibility beyond the near-foreground distance zone is predominantly limited to the narrow Fire Road Substation/Converter Station lightning masts which viewers will be unlikely to distinguish from other elements on the horizon. Even in locations in which visibility of the Fire Road Substation/Converter Station is indicated to include other portions of the Facility beyond the lightning masts, field verification confirmed that viewers are still unlikely to distinguish these components from other elements in the view due to the heavily developed nature of the VSA. Field verification also confirmed that views indicated by the viewshed analysis near the outer extent of the near-foreground distance zone, such as those from the Atlantic County Bikeway and the West Jersey and Atlantic Railroad, will be similarly limited. Due to surrounding vegetation and structures, full visibility of the proposed Fire Road Substation/Converter Station is likely to be limited to areas directly adjacent the Fire Road Site. In addition, these areas of visibility are likely to be slightly more limited than indicated in the viewshed analysis due to the roadway clearing process used in the viewshed analysis methodology (see Section 2.2.1).
- As suggested by the viewshed analysis, visibility from Hingston Avenue will be possible, particularly when directly adjacent to the Fire Road Site. This is primarily the result of vegetation clearing along Hingston Avenue that is proposed to accommodate the Fire Road Substation/Converter Station. Because this specific block is currently vegetated, viewers are anticipated to be acutely aware of the changes to the landscape resulting from vegetation clearing and the installation of the Fire Road Substation/Converter Station.
- As the viewshed analysis suggests, parking areas along Tilton Road and Hingston Avenue west of Tilton Road, will likely have visibility of the Fire Road Substation/Converter Station. However, these views will also include significant existing visual clutter associated with the commercial facilities surrounding this area.

- Visibility suggested by the viewshed analysis on Hingston Avenue south of the Fire Road Site will have significant views of the Fire Road Substation/Converter Station. Residential development directly south of the Fire Road Site will have a direct line-of-sight to the Fire Road Substation/Converter Station.
- Visibility from the Harbor Crossing manufactured home park will be more limited than predicted by the viewshed analysis and views will be framed by the Fire Road Substation/Converter Station entrance road, making them discrete and minimal in nature. Existing site vegetation will remain along the majority of Fire Road (County Road 651) providing substantial screening of a majority of views into the Fire Road Site.
- Visibility indicated by the viewshed analysis from the Garden State Parkway may occur in discrete areas but will be of very short duration. Additionally, views will often be partially obscured by foreground structures and vegetation and would require viewers to turn away from the direction of travel. Distinguishing Fire Road Substation/Converter Station components from other elements on the horizon will be difficult for viewers particularly when traveling at the speed of traffic on the Garden State Parkway.

In summary, throughout most of the VSA, the proposed Fire Road Substation/Converter Station is not anticipated to be visible due to densely situated buildings and houses, and dense evergreen and deciduous forest vegetation including existing vegetation that will remain on portions of the Fire Road Site. Considering views beyond the near-foreground, it is likely that the individual components of the proposed Fire Road Substation/Converter Station will be difficult to distinguish from other built form and vegetation occurring throughout the VSA. As such, visibility of the Fire Road Substation/Converter Station will be generally limited to roadways, commercial shopping plazas, and parking areas with a direct line of sight and within the near-foreground distance zone. However, views from the residential areas directly south of the Fire Road Site are anticipated to be open, long-duration, and have the potential to affect users with a higher degree of sensitivity to changes in the visual environment.

2.3 Photosimulations

2.3.1 Selection of Key Observation Points

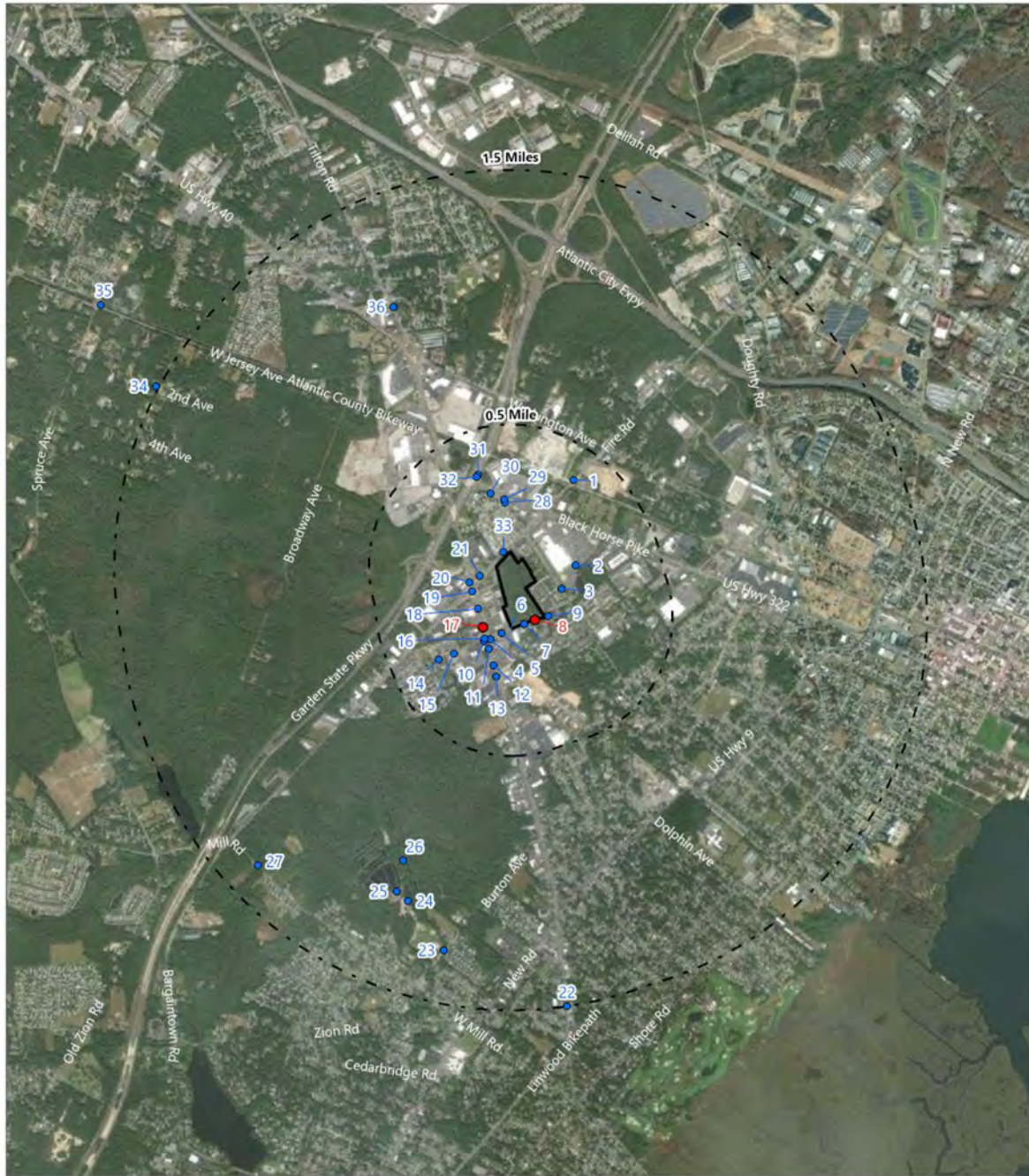
Based on the outcome of VSR research and field verification, two KOP were ultimately selected for the development of a visual simulation. These KOPs were selected based upon the following criteria:

- They provide the most open and available view of the proposed Fire Road Substation/Converter Station.
- The views represent those potentially available to a large number of users.

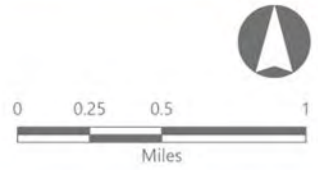
It should be noted that no open views toward the proposed Fire Road Substation/Converter Station were available from VSRs or in areas beyond the immediate near-foreground. Inset 2.3-1 illustrates the location

of the KOPs considered for the development of a photosimulation and the KOP ultimately selected for the reasons described above.

Inset 2.3-1. Key Observation Point Locations



- Selected KOP
- Candidate KOP
- Onshore Substation/Converter Station Parcel
- Distance Zone Transition
- Visual Study Area



Basemap: Esri "World Imagery" map service

2.3.2 *Photosimulation Methodology*

To show anticipated visual changes associated with the proposed Fire Road Substation/Converter Station, 3D modeling software was used to create a photosimulation of the proposed Fire Road Substation/Converter Station. The photosimulation was developed by using Autodesk 3ds Max Design® to create a simulated perspective (camera view) to match the location, bearing, and focal length of the existing conditions photograph. Existing landscape elements in the view were modeled using detailed lidar data representing roads, buildings, vegetation, and topography. Once the camera was roughly aligned to match the photo, minor adjustments were made to the camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph. This assures that any elements introduced to the model space (e.g., the substation/converter station components) will be shown in proper proportion, perspective, and relation to the existing landscape elements in the view. Consequently, the alignment, elevations, dimensions, and locations of the proposed Fire Road Substation/Converter Station structures in the simulations will be accurate.

A computer model of the proposed Fire Road Substation/Converter Station was prepared based on preliminary specifications and data provided by Atlantic Shores (see Section 2.2.1 for a description of dimensions, materials, and color). Using the camera view as guidance, the visible portions of the modeled Fire Road Substation/Converter Station components were imported to the landscape model space described above and set at the proper coordinates. Once the proposed Fire Road Substation/Converter Station was accurately aligned within the camera view, a lighting system was created based on the actual time, date, and location of the photograph in order to accurately represent light reflection, highlights, color casting, and shadows. The rendered Fire Road Substation/Converter Station was then superimposed over the photograph in Adobe Photoshop®, and portions of the Site that fell behind vegetation, structures, or topography were masked out. Photoshop was also used to take out any existing structures or vegetation proposed to be removed as part of the Fire Road Substation/Converter Station. Once the Site was added to the photograph, any shadows cast on the ground by the proposed structures were included by rendering a separate “shadow pass” over the DEM or lidar model in 3ds Max® and then overlaying the shadows on the simulated view with the proper fall-off and transparency using Photoshop®.

2.3.3 *Photosimulation Results*

Photosimulations of the proposed Fire Road Substation/Converter Station are presented in Inset 2.3-3, 2.3-4, and 2.3-6. Larger versions—including contextual information about the KOP location—are included in Attachment C.

Key Observation Point 8 (Existing View Description)

The selected photograph from KOP 8, illustrated in Inset 2.3-2, was taken from the south-side Hingston Avenue in Egg Harbor Township, New Jersey, approximately 45 ft (13.7 m) south of the Fire Road Site. The existing view looking northwest from this location views down Hingston Avenue from the entry drive to the Tildon Club Condominiums, which appear in the foreground, but outside the simulation frame of view. Hingston Avenue is visible in the immediate foreground, and a dirt track extends away from the viewer and

into a dense forested area. The forest consists of primarily evergreen trees and truncates the view when looking northwest. The trees from the horizon with the bright blue sky. A utility pole and shopping cart along with some other debris are visible in the foreground giving the scene a sense of neglect. However, the forest does bring a sense of natural presence in an otherwise busy and visually cluttered environment. Viewer sensitivity ranges from low to high in this area due to the presence of commuters and residential users.

Inset 2.3-2. Existing View from Hingston Avenue



Photosimulation (Selected Key Observation Point Proposed View Description)

With the proposed Fire Road Substation/Converter Station in place, the Facility components are plainly visible in the foreground. The removal of site vegetation results in a significant change in character from an enclosed and almost intimate view to open sky, backed by vegetation. The utility pole in the foreground which was substantially backed by vegetation in the existing view, is now viewed against the blue sky, making it appear more prominent and drawing the viewer's eye. The presence of the proposed Fire Road Substation/Converter Station also draws the viewer's eye into the site to the tall electrical infrastructure extending beyond the background vegetation and into a portion of the sky. The large building on site also extends above the background vegetation resulting in the formation of a new horizon, not present in the existing photograph. The proposed Fire Road Substation/Converter Station results in a significant visual change from this location and would be experienced by users driving by the site as well as residents in the

high-density residential complexes on the left of the photographer. These users are also likely to experience this view when using the sidewalks to travel to nearby commercial centers. Given the potential high sensitivity of the viewers, the Substation/Converter Station results in major adverse visual effects.

Inset 2.3-3. Photosimulation from Hingston Avenue



Photosimulation (Selected Key Observation Point Proposed View with Mitigation Description)

With the proposed mitigation in place, and following five to seven years of growth, a dense row of evergreen trees between Hingston Avenue and the Fire Road Substation/Converter Station fence line partially screen significant portions of the Substation/Converter Station. The proposed plantings effectively break up the horizontal line of the fence and screen significant portions of the Fire Road Substation/Converter Station components. The uniformity of the trees creates a hedgerow along the road's edge that is somewhat consistent with the previously forested area, but the lack of variety in the species results in a monotonous scene void of color and texture variety. At five to seven years of growth, the plants are too small to completely screen the upper portions of the Fire Road Substation/Converter Station components, but the plantings will provide effective year-round screening. Additional growth will enhance the screening provided by the plantings and reduce the amount of visibility of the Fire Road Substation/Converter Station. However, A portion of the facility remains visible at the access road entrance, where mitigation cannot be placed. Therefore, with the mitigation in place, the Fire Road Substation/Converter Station will still result in major visual impacts from this location.

Inset 2.3-4. Photosimulation with Mitigation in Place from Hingston Avenue



Key Observation Point 17 (Existing View Description)

The selected photograph from KOP 17, illustrated in Inset 2.3-4, was taken from the west-side of Tilton Road in Egg Harbor Township, New Jersey, approximately 548 ft (167 m) west of the Fire Road Site. The existing view looking east-northeast from this location includes four lanes of Tilton Road in the immediate foreground, backed by a landscape buffer including a vegetated median with grasses and shrubs in a mulched bed. Spanning across the entire view is a single-story shopping plaza with square corner turrets and a low roofline lined with retail signage. In front of the structure, indication of an asphalt parking lot is visible beyond the landscape buffer. The lot is scattered with trees in leaf-off condition and overhead lighting poles protrude into the sky. Vehicles can be seen parked in stalls closest to the plaza. The tops of utility poles backed by dense vegetation in variable fall colors are visible behind the plaza and the distinct tree line obscures more distant views, defining the visible horizon. The clear and open sky above is bright blue in color.

Inset 2.3-5. Existing View from Tilton Road



Photosimulation (Selected Key Observation Point Proposed View Description)

With the proposed Fire Road Substation/Converter Station in place, changes to the vegetation are discernable from this location, but the tree lot still defines the middle ground horizon. A narrow lightning mast near the center of the view can be seen extending into the background sky. From this location the Fire Road Substation/Converter Station results in minimal visual change as the lightning masts are similar in form and material to the light posts in the parking lot and blend into the existing landscape. The shopping plaza remains the focus of the view and users experiencing this view are unlikely to be affected by the presence to the Fire Road Substation/Converter Station.

Inset 2.3-6. Photosimulation from Tilton Road



3.0 CONCLUSIONS

As discussed previously, the visibility of the proposed Fire Road Substation/Converter Station will generally be limited to transit corridors and commercial parking lots in the near-foreground distance zone of the Site. The viewshed analysis results suggest that visibility could occur over an area measuring approximately 97.7 acres (0.4 km²). Based on these results, the Fire Road Substation/Converter Station will be screened from view in 99.5% of the VSA, and from 83 (83%) of the 100 identified VSRs within the VSA. As such, almost the entire VSA and most of the VSRs will not have views of the proposed Fire Road Substation/Converter Station. In addition, presence of VSRs within the Fire Road Substation/Converter Station ZVI does not necessarily indicate that the facility will result in adverse visual impacts to that resource. As confirmed during field review, in areas outside the near-foreground distance zone, Fire Road Substation/Converter Station visibility is predominantly limited to the upper portions of the lightning masts due to screening provided by adjacent structures and vegetation (see Inset 2.3-6). These structures are likely to be lost amongst the existing commercial, industrial development, along with existing roadside utilities which characterize the LCAs in and around the Site. Similarly, in areas where visibility of the Fire Road Substation/Converter Station is indicated to include views beyond the lightning masts, visibility is still likely to be limited to the upper portions of the Site components which will be difficult to distinguish from other structures on the horizon. As indicated by the viewshed analysis results, areas where the Fire Road Substation/Converter Station may be visible generally occur within the Commercial LCA, with less substantial views also occurring in the Forest, High Density Residential, and Industrial LCAs. Visibility in other LCAs will occur over less than 11 acres of their cumulative land area. Within the Commercial LCA visibility generally occurs in open parking areas in proximity to the Fire Road Site, and visibility within the Forest LCA is attributed to locations within the Site which are not currently and will not be accessible to viewers. Views from the High Density Residential LCA will be available, particularly when directly adjacent to the Site when viewers are oriented in the direction of the Site. In High Density Residential LCA, it is likely that these users will have elevated sensitivity to changes in the landscape and for those that live and/or work directly adjacent to the Fire Road Substation/Converter Station, adverse visual effects are anticipated. To minimize and reduce these visual effects, a landscape buffer is being proposed along Fire Road. While this mitigation will become more effective as the vegetation matures, it is likely that viewers directly adjacent to the site will experience adverse visual effects.

The Commercial LCA, which has the greatest degree of potential visibility in the near-foreground distance zone, is generally not considered to have high scenic quality and is often characterized by an eclectic mix of structure types and a high degree of visual clutter. Viewers in the Commercial LCA are typically travelers on major roadways and local roads, as well as employees and shoppers at the commercial and industrial enterprises in the area. The users present in the Commercial LCA are likely to have a relatively low sensitivity to visual change in the surrounding environment and the addition of the onshore facilities would be unlikely to change their perception of the landscape. In addition, these viewers are typically focused on other activities (e.g., driving) or involved in indoor activities (e.g., work, shopping) that divert their attention or prevent them from viewing the surrounding landscape. Where visibility of the Fire Road Site is available, the most recognizable visual change for viewers familiar with the area is likely to be a reduction or thinning of

vegetation occurring at the site which will reduce tree canopy on the skyline as viewed behind foreground structures and vegetation as illustrated in KOP 17.

Field review generally confirmed the viewshed analysis results, but it was noted that the presence of existing development and vegetation would likely further limit the overall visibility of the Fire Road Substation/Converter Station to the proposed lightning masts and portions of the structures. These structures would be partially screened by existing structures and vegetation in the majority of the VSA with full visibility only occurring when viewers are directly adjacent to the Site on Hingston Avenue and Fire Road (County Road 651). Additionally, it was determined during field review that the modification of the DSM used in the viewshed analysis resulted in an overstatement of potential visibility along roadways and particularly the resources located adjacent to these roadways. However, due to the abundance of overhead utilities, it was still deemed appropriate to include this modification in order to develop a conservative ZVI.

The photosimulation produced from Hingston Avenue represents the most open, unobstructed view of the proposed Fire Road Substation/Converter Station. Visibility in this area will be available to residents directly adjacent to the Fire Road Site and they will likely be affected by the visual changes introduced by the Site. The greatest degree of visual contrast results from the vegetation clearing occurring at Fire Road Site, but the addition of a large industrial substation to the view also results in a significant character shift in this location resulting in major visual effects. Drivers will likely be less affected by the change due to the fleeting nature of the views along this road, but stationary residents in their homes or pedestrians will experience this industrial character shift on a regular basis. The proposed vegetative mitigation along Hingston Avenue provides a visual buffer of the lower elements within the Fire Road Substation/Converter Station as well as some visual interest resulting from the variable textures and colors presented. Additionally, the proposed mitigation breaks up the long fence line, thus reducing its scale and color contrast. While the proposed plantings effectively mitigate the visual contrast of the Fire Road Substation/Converter Station, they fall short of returning the sense of enclosure present in the existing view. While this type of land clearing and development is certainly not without precedent within the VSA, the change to the Site is substantial. For the few that live or work directly adjacent to the site, the Fire Road Substation/Converter Station will result in major visual effects. However, considering the majority of viewers within the VSA who are not directly adjacent to the Facility, they are unlikely to notice the changes to the landscape. This conclusion is supported by the photosimulation from Tilton Road (KOP 17). In this view, located only 548 feet from the Site, the Fire Road Substation/Converter Station is almost completely obscured from view and only a lightning mast is visible. Due to the lightning masts similar appearance size and appearance to light poles and other streetscape elements, it blends into the existing visual landscape present in this view and throughout the Commercial LCA. The vegetation clearing, while noticeable from this KOP, results in minimal change to the landscape suggesting that the major visual impacts associated with the Fire Road Substation/Converter Station will be very localized.

4.0 MITIGATION

Based on the results of the VRA, there are several mitigation measures that could be implemented as the design of the Fire Road substation/converter station advances. The list below provides an overview of potential mitigation measures that could be included in the final design.

- **Siting.** The Fire Road Substation/Converter Station is proposed on an unused, forested site adjacent to multiple land uses, including professional offices, regional commercial development districts, and residential uses. The area is zoned for commercial and a regional commercial development district and is currently characterized as undeveloped land. To the degree practicable, the Fire Road Substation/Converter station has been setback from Fire Road (County Road 651) and Hingston Avenue and existing vegetative buffer to remain has been maximized. To the degree practicable, additional siting adjustments to preserve vegetation along Hingston Avenue will be evaluated once the Fire Road Substation/Converter Station proceeds to final design.
- **Screening.** As discussed previously, the site will maintain an existing vegetative buffer around the site to the extent practicable. However, in some areas, space constraints require the removal of some vegetation that would conflict with the safe operation of the Fire Road Substation/Converter Station and therefore, could need to be cleared. In these areas, Atlantic Shores will assess landscape vegetation of reasonable size and density to minimize views into the site from nearby residential and commercial districts (see Inset 2.3-4).
- **Color Treatment.** Atlantic Shores will carefully consider the color of materials used for buildings, fences, and specular steel structures throughout the Substation/Converter Station. The use of different color palettes can help minimize the potential color contrast presented by these features. Neutral colors that tend to blend with the vernacular materials in the area can minimize the color contrast presented by the Substation/Converter Station. For example, the BOEM recommends the use of Shadow Gray (BLM PC04: Shadow Gray) which has been shown to effectively reduce the contrast of structures when viewed against a natural background. Additionally, black vinyl coated fence material offers a substantially lower color contrast alternative to standard galvanized steel. Elements that require galvanized steel will be dulled during the manufacturing process to minimize glare resulting from these materials. Atlantic Shores is committed to using color treatment as a means of mitigating the potential visual impacts associated with the proposed substation/converter station.
- **Low Profile.** The height of the lightning masts and other electrical equipment within the onshore facilities must be designed to ensure the safe operation of the Fire Road Substation/Converter Station. However, using the project design envelope (PDE) approach the maximum height for all components within the onshore Fire Road Substation/Converter Station was evaluated. It is anticipated that, where possible, the design of the Fire Road Substation/Converter Station will specify the lowest profile components practicable. Other major components of the onshore facilities are being installed underground to avoid long-term visual impact.

- **Downsizing.** The Fire Road Substation/Converter station design responds to the electrical and safety requirements of the substation/convert station, and the space available at the proposed sites. As such, the Fire Road Substation/Converter Station will occupy the smallest site footprint and limit the horizontal and vertical extent of the proposed equipment, to the extent practicable.
- **Alternate Technologies.** The onshore facilities will utilize buried electrical cables rather than overhead conductors to minimize visual impacts.
- **Non-specular Materials.** Where applicable and practicable the Fire Road Substation/Converter Station will utilize non-specular conductors and galvanized materials that will use a dulling technique during the manufacturing process.
- **Lighting.** Lighting at the Substation/Converter Station will be designed and installed in consideration of sustainable outdoor lighting specifications to the maximum extent practicable in accordance with local and state regulations to minimize impact to natural night skies and offsite lighting. Measures include, but are not limited to utilization of LEDs, focused task lighting kept to a minimum and turned on only as needed by manual or auto shut off, and fully shielded lights. Guidance and standards will meet the Town of Egg Harbor local ordinances and will also be drawn from the National Park Service Sustainable Outdoor Lighting best practices and BLM Technical Note 457, Night Sky and Dark Environments: Best Management Practices for Artificial Light at Night on BLM-Managed Lands, along with other industrial lighting and safety standards literature.
- **Maintenance.** The Fire Road Substation/Converter Station components and site will be maintained to ensure a clean and orderly appearance.

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Attachment A

Visibility from Visually Sensitive Resources

Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
Properties of Historic Significance					
National/State Historic Landmarks					
None in Study Area					
National/State Historic Sites					
None in Study Area					
Sites Listed on National or State Registers of Historic Places (NRHP/SRHP)					
1. Linwood Historic District	City of Linwood	Atlantic		2.8	-
2. Linwood Borough School No. 1 (Linwood Public Library)	City of Linwood	Atlantic		2.9	-
3. Risley Homestead	City of Northfield	Atlantic		1.4	-
Sites Eligible for Listing on NRHP or SRHP					
4. Garden State Parkway Historic District (Atlantic)	Township of Egg Harbor	Atlantic	30, 31, 32	0.1	+/-
5. West Jersey and Atlantic Railroad Historic District	City of Pleasantville, Township of Egg Harbor	Atlantic	35	0.3	+/-
6. 1715 Tilton Road	City of Northfield	Atlantic		1.7	-
7. Studebaker Showroom	Township of Egg Harbor	Atlantic		2.0	-
Designated Scenic Resources					
Rivers Designated as National or State Wild, Scenic or Recreational					
None in Study Area					
Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic					
None in Study Area					
Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks)					
None in Study Area					
Public Lands and Recreational Resources					
National Parks, Recreation Areas, Seashores, and Forests					
None in Study Area					

Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
National Natural Landmarks					
None in Study Area					
National Wildlife Refuges					
None in Study Area					
State Parks					
None in Study Area					
State Nature and Historic Preserve Areas					
8. Heathercroft Preserve	Town of Egg Harbor	Atlantic		1.1	-
State Forest Preserve					
None in Study Area					
Other State Lands					
<i>Wildlife Management Areas & Game Refuges</i>					
9. State Wildlife Management Area	City of Northfield, Township of Egg Harbor	Atlantic		1.7	-
10. Absecon Wildlife Management Area	City of Absecon, City of Pleasantville	Atlantic	38	2.6	+/-
Natural Areas					
None in Study Area					
State Forests					
None in Study Area					
State Fishing/Waterway Access Sites					
None in Study Area					
Trails					
<i>State and Federal Trails</i>					
No stand-alone state/federal trails were identified. However, state trails occur within (and are evaluated as part of) state lands identified elsewhere in this table.					
<i>Bike Trails/Routes</i>					
11. Atlantic County Bikeway	Township of Egg Harbor	Atlantic	35	0.4	+/-

Atlantic Shores Offshore Wind Onshore Facilities - Cardiff

Egg Harbor Township, New Jersey

Attachment A: Visibility from Visually Sensitive Resources

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Visually Sensitive Resource	Location			VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County	City or Town			+ Visible - Not Visible +/- Partially Visible
						(Topography, Structures, and Vegetation)
12. Linwood Bike Path	City of Linwood, City of Northfield, City of Pleasantville		Atlantic		0.8	+/-
<i>Other Trails</i>						
None in Study Area						
Local Parks and Recreation Areas						
13. Tilton Road Golf Range Pro Shop	City of Northfield		Atlantic		0.3	+/-
14. Birch Grove Park	City of Northfield, Township of Egg Harbor		Atlantic	23-26	0.3	-
15. Abraham Lincoln Park	City of Pleasantville		Atlantic		0.5	-
16. Green Park	City of Pleasantville		Atlantic		0.6	-
17. Tilton Pool	City of Northfield		Atlantic		0.6	-
18. Max Manning Complex	City of Pleasantville		Atlantic		0.7	-
19. Broadway Park	Township of Egg Harbor		Atlantic		0.8	-
20. Childs Kirk Park	Township of Egg Harbor		Atlantic		0.8	-
21. Northfield City Playground	City of Northfield		Atlantic		1.1	-
22. South Pleasantville Little League	City of Pleasantville		Atlantic		1.2	-
23. Tilton Avenue Park	City of Pleasantville		Atlantic		1.2	-
24. J B Smith Playground	City of Pleasantville		Atlantic		1.3	-
25. Stillwater Park	City of Northfield, City of Pleasantville, Township of Egg Harbor		Atlantic		1.4	-
26. Elm Avenue Park	Township of Egg Harbor		Atlantic		1.4	+/-

Atlantic Shores Offshore Wind Onshore Facilities - Cardiff

Egg Harbor Township, New Jersey

Attachment A: Visibility from Visually Sensitive Resources

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Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
27. Northfield Veteran's Park	City of Northfield	Atlantic		1.5	-
28. Atlantic City Golf Club	City of Northfield	Atlantic		1.5	+/-
29. Clematis Avenue Park	City of Pleasantville	Atlantic		1.6	-
30. Woodland Avenue Park	City of Pleasantville	Atlantic		1.7	+/-
31. Bright Avenue Recreation Center	City of Pleasantville	Atlantic		1.8	-
32. North Main Street School Playground	City of Pleasantville	Atlantic		1.9	-
33. Ty Hellrich Field	City of Pleasantville	Atlantic		1.9	-
34. Bayview Waterfront Park	City of Pleasantville	Atlantic		2.0	-
35. Tacht Basin	City of Pleasantville	Atlantic		2.0	-
36. Glencove Park	City of Northfield	Atlantic		2.2	-
37. Bay Avenue Park	City of Northfield	Atlantic		2.2	-
38. Mainland Recreation Association	City of Linwood	Atlantic		2.3	-
39. Walnut Avenue Recreational Complex	City of Pleasantville	Atlantic		2.3	-
40. Linwood Country Club	City of Linwood, City of Northfield	Atlantic		2.3	-
41. Leeds Avenue Watershed	City of Pleasantville	Atlantic		2.5	-
42. Poplar Avenue Soccer Field	City of Linwood	Atlantic		2.7	-
43. Delilah Oaks Park	Township of Egg Harbor	Atlantic		2.7	-

Atlantic Shores Offshore Wind Onshore Facilities - Cardiff

Egg Harbor Township, New Jersey

Attachment A: Visibility from Visually Sensitive Resources

Page 4 of 8

Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
44. Leeds Avenue Park	City of Pleasantville	Atlantic		2.8	-
Publicly Accessible Conservation Lands/Easements					
45. Nature Preservation Council Wildlife Refuge	Township of Egg Harbor	Atlantic		0.9	-
Rivers and Streams with Public Fishing					
46. Absecon Creek	City of Absecon	Atlantic		2.9	-
Named Lakes, Ponds, and Reservoirs					
47. Birch Grove Park Pond	City of Northfield, Township of Egg Harbor	Atlantic	26	0.8	-
48. Dog Lake	City of Northfield	Atlantic		1.0	-
49. Raccoon Lake	City of Northfield	Atlantic		1.0	-
50. Silver/Deer Lake	City of Northfield	Atlantic	25	1.0	-
51. Crystal Lake	City of Northfield	Atlantic		1.1	-
52. Golden Pond	City of Northfield	Atlantic	24	1.1	-
53. Bog Hollow	City of Northfield	Atlantic		1.2	-
54. Patcong Lake	Township of Egg Harbor	Atlantic		1.4	-
55. Bargaintown Pond	City of Linwood, City of Northfield, Township of Egg Harbor	Atlantic		2.0	-
56. Lake Harvey	Township of Egg Harbor	Atlantic		2.6	-
57. Atlantic City Reservoir	City of Absecon, Township of Egg Harbor	Atlantic		2.8	-
High-Use Public Areas					
State, US, and Interstate Highways					

Atlantic Shores Offshore Wind Onshore Facilities - Cardiff

Egg Harbor Township, New Jersey

Attachment A: Visibility from Visually Sensitive Resources

Page 5 of 8

Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
58. US 40	City of Pleasantville, Township of Egg Harbor	Atlantic	28-30, 32	0.2	+/-
59. Garden State Parkway (NJ 444)	Township of Egg Harbor	Atlantic	31, 32	0.2	+/-
60. US 9	City of Linwood, City of Northfield, City of Absecon, City of Pleasantville, Township of Egg Harbor	Atlantic		0.9	+/-
61. Atlantic City Expressway (NJ 446)	City of Pleasantville, Township of Egg Harbor	Atlantic		1.1	-
Schools					
62. Principle Academy Charter	Township of Egg Harbor	Atlantic		0.5	-
63. Life Point Academy	City of Pleasantville	Atlantic		0.9	-
64. South Main Street Elementary School	City of Pleasantville	Atlantic		1.3	-
65. Pleasantville Public Schools Early Childhood Center	City of Pleasantville	Atlantic		1.4	-
66. Pleasantville High School	City of Pleasantville, Township of Egg Harbor	Atlantic		1.4	-
67. Washington Avenue Elementary School	City of Pleasantville	Atlantic		1.5	-
68. Coastal Learning Center	City of Northfield	Atlantic		1.5	-
69. Northfield Community School	City of Northfield	Atlantic		1.6	-
70. Pleasantville Middle School	City of Pleasantville	Atlantic		1.7	-
71. North Main Street Elementary School	City of Pleasantville	Atlantic		1.9	-
72. Clayton J. Davenport Elementary School	Township of Egg Harbor	Atlantic		2.3	-

Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
73. Fernwood Avenue Middle School	Township of Egg Harbor	Atlantic		2.3	-
74. Leeds Avenue Elementary School	City of Pleasantville	Atlantic		2.6	-
75. Holy Spirit High School	City of Absecon, City of Pleasantville	Atlantic		2.7	-
Cities					
76. City of Northfield	City of Northfield	Atlantic	12, 13, 22-26	0.1	+/-
77. City of Pleasantville	City of Pleasantville	Atlantic	38	0.4	+/-
78. City of Linwood	City of Linwood	Atlantic		2.0	-
79. City of Absecon	City of Absecon	Atlantic		2.4	-
Environmental Justice Areas					
80. 340010118032	City of Northfield, City of Pleasantville, Township of Egg Harbor	Atlantic	2-9, 11, 16-21, 28- 33	0.0	+/-
81. 340010123022	City of Northfield, City of Pleasantville, Township of Egg Harbor	Atlantic	12, 13, 23-26	0.1	+/-
82. 340010118031	City of Northfield, Township of Egg Harbor	Atlantic	4, 10-12, 14-20, 27	0.1	+/-
83. 340010117021	City of Absecon, City of Pleasantville, Township of Egg Harbor	Atlantic	1	0.3	+/-
84. 340010122003	City of Northfield, City of Pleasantville, Township of Egg Harbor	Atlantic		0.4	-
85. 340010117022	Township of Egg Harbor	Atlantic	36	0.4	+/-
86. 340010117011	Township of Egg Harbor	Atlantic	35, 36	0.6	+/-
87. 340010119004	City of Pleasantville, Township of Egg Harbor	Atlantic		0.8	+/-
88. 340010122002	City of Northfield, City of Pleasantville	Atlantic		0.9	-

Atlantic Shores Offshore Wind Onshore Facilities - Cardiff

Egg Harbor Township, New Jersey

Attachment A: Visibility from Visually Sensitive Resources

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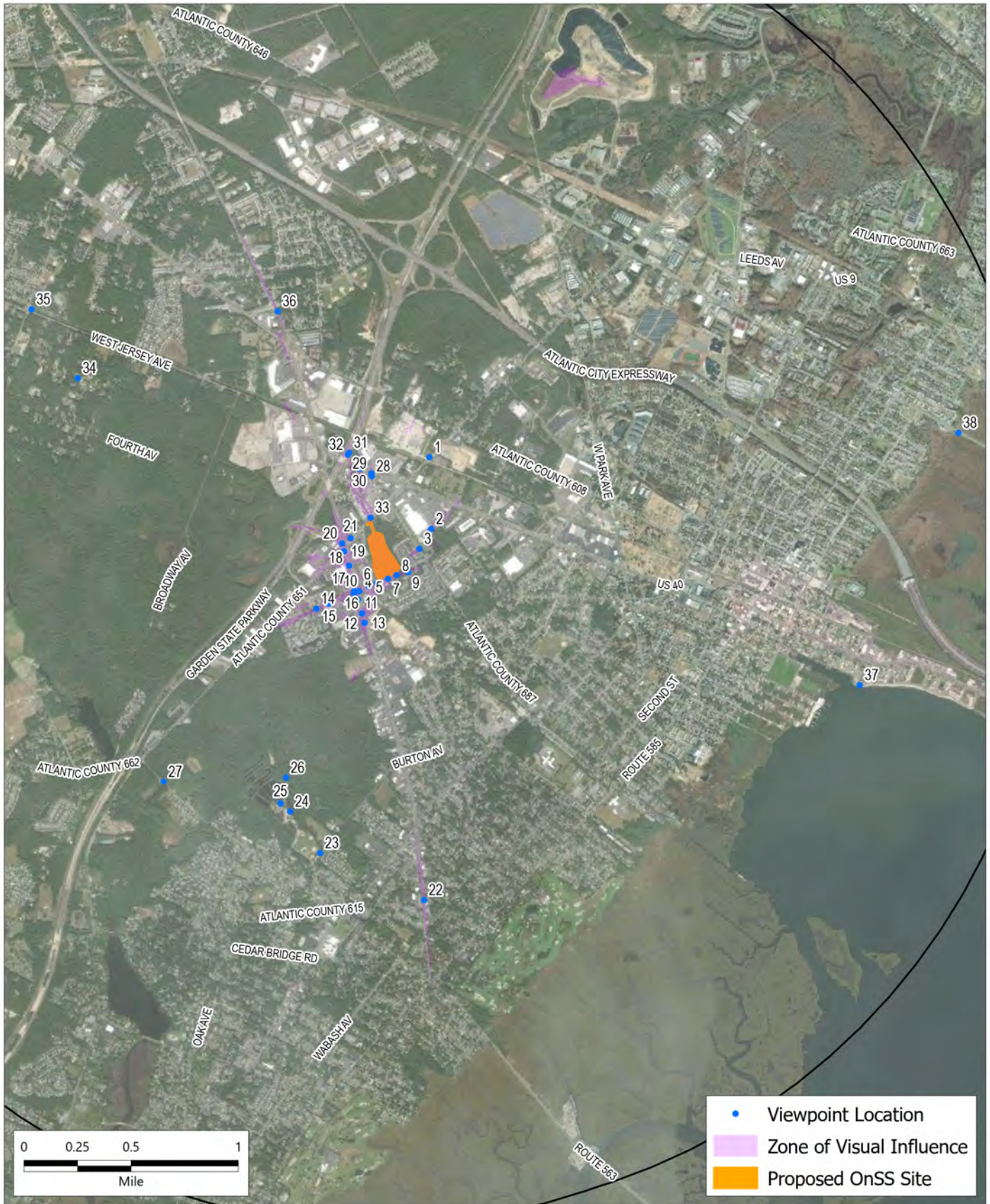
Visually Sensitive Resource	Location		VP	Distance ¹ Miles from Substation Parcel	Project Visibility (Viewshed Results)
	City or Town	County			+ Visible - Not Visible +/- Partially Visible
					DSM Viewshed (Topography, Structures, and Vegetation)
89. 340010122001	City of Pleasantville	Atlantic		1.0	-
90. 340010119003	City of Pleasantville	Atlantic		1.4	-
91. 340010119002	City of Pleasantville, Township of Egg Harbor	Atlantic		1.4	-
92. 340010121002	City of Northfield, City of Pleasantville, Township of Egg Harbor	Atlantic		1.4	-
93. 340010121001	City of Pleasantville, Township of Egg Harbor	Atlantic		1.5	-
94. 340010120002	City of Absecon, City of Pleasantville, Township of Egg Harbor	Atlantic	37, 38	1.7	-
95. 340010119001	City of Absecon, City of Pleasantville, Township of Egg Harbor	Atlantic		1.8	-
96. 340010119005	City of Absecon, City of Pleasantville	Atlantic		2.1	-
97. 340010117012	Township of Egg Harbor	Atlantic		2.2	-
98. 340010120001	City of Absecon, City of Pleasantville	Atlantic	38	2.4	-
99. 340010103001	City of Absecon, City of Pleasantville, Township of Egg Harbor	Atlantic		2.4	-
100. 340010103002	City of Absecon, City of Pleasantville	Atlantic		2.7	-

¹ For large areas and linear sites, approximate distance to the substation was measured from the respective area's closest point.

² Evaluation of Birch Grove Park includes internally located waterbodies.

Attachment B

Viewpoint Location Map and Photolog of Viewpoints



Atlantic Shores Offshore Wind

Egg Harbor Township, Atlantic County, New Jersey

Attachment B: Viewpoint Location Map and Photo Log of Viewpoints



Key Observation Point: 1

Location:
39.40028°N,
74.55213°W

View looking northwest from Fire Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Industrial

Distance to Limit of Disturbance: 2,070 ft.

Date and Time:
11/10/2022, 11:49 AM



Key Observation Point: 2

Location:
39.39542°N,
74.55201°W

View looking west-southwest from Walmart Parking Lot, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 1,150 ft.

Date and Time:
11/10/2022, 11:58 AM



Key Observation Point: 3

Location:
39.39410°N,
74.55304°W

View looking southwest from Old Egg Harbor Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 642 ft.

Date and Time:
11/10/2022, 12:03 PM



Key Observation Point: 4

Location:
39.39124°N,
74.55830°W

View looking northeast from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 546 ft.

Date and Time:
11/10/2022, 12:12 PM



Key Observation Point: 5

Location:
39.39156°N,
74.55746°W

View looking northeast from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 297 ft.

Date and Time:
11/10/2022, 12:15 PM



Key Observation Point: 6

Location:
39.39177°N,
74.55678°W

View looking northeast from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 131 ft.

Date and Time:
11/10/2022, 12:17 PM



Key Observation Point: 7

Location:
39.39208°N,
74.55578°W

View looking north from
Tilton Club, Egg Harbor
Township, Atlantic
County, New Jersey

**Landscape Character
Areas:** High Density
Residential

**Distance to Limit of
Disturbance:** 30 ft.

Date and Time:
11/10/2022, 12:21 PM



Key Observation Point: 8

Location:
39.39232°N,
74.55503°W

View looking north-
northwest from Tilton
Club, Egg Harbor
Township, Atlantic
County, New Jersey

**Landscape Character
Areas:** High Density
Residential

**Distance to Limit of
Disturbance:** 56 ft.

Date and Time:
11/10/2022, 12:25 PM



Key Observation Point: 9

Location:
39.39252°N,
74.55402°W

View looking west from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: High Density Residential

Distance to Limit of Disturbance: 232 ft.

Date and Time:
11/10/2022, 12:28 PM



Key Observation Point: 10

Location:
39.39111°N,
74.55877°W

View looking northeast from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 681 ft.

Date and Time:
11/10/2022, 12:38 PM



Key Observation Point: 11

Location:
39.39069°N,
74.55842°W

View looking north from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 712 ft.

Date and Time:
11/10/2022, 12:41 PM



Key Observation Point: 12

Location:
39.38975°N,
74.55806°W

View looking north-northeast from Tilton Road, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 951 ft.

Date and Time:
11/10/2022, 12:44 PM

Atlantic Shores Offshore Wind

Egg Harbor Township, Atlantic County, New Jersey

Attachment B: Viewpoint Location Map and Photo Log of Viewpoints



Key Observation Point: 13

Location:
39.38911°N,
74.55784°W

View looking north from Tilton Road, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 1,144 ft.

Date and Time:
11/10/2022, 12:48 PM



Key Observation Point: 14

Location:
39.39008°N,
74.56204°W

View looking east-northeast from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: High Density Residential

Distance to Limit of Disturbance: 1,669 ft.

Date and Time:
11/10/2022, 12:55 PM

Atlantic Shores Offshore Wind

Egg Harbor Township, Atlantic County, New Jersey

Attachment B: Viewpoint Location Map and Photo Log of Viewpoints



Key Observation Point: 15

Location:
39.39041°N,
74.56096°W

View looking east-northeast from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 1,342 ft.

Date and Time:
11/10/2022, 12:58 PM



Key Observation Point: 16

Location:
39.39127°N,
74.55872°W

View looking north-northeast from Hingston Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 637 ft.

Date and Time:
11/10/2022, 1:04 PM

Atlantic Shores Offshore Wind

Egg Harbor Township, Atlantic County, New Jersey

Attachment B: Viewpoint Location Map and Photo Log of Viewpoints



Key Observation Point: 17

Location:
39.39194°N,
74.55888°W

View looking northeast from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 583 ft.

Date and Time:
11/10/2022, 1:06 PM



Key Observation Point: 18

Location:
39.39298°N,
74.55918°W

View looking east-northeast from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 572 ft.

Date and Time:
11/10/2022, 1:10 PM



Key Observation Point: 19

Location:
39.39394°N,
74.55961°W

View looking east-northeast from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 638 ft.

Date and Time:
11/10/2022, 1:13 PM



Key Observation Point: 20

Location:
39.39448°N,
74.55977°W

View looking east-northeast from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 638 ft.

Date and Time:
11/10/2022, 1:16 PM



Key Observation Point: 21

Location:
39.39484°N,
74.55902°W

View looking northeast from Fire Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Transportation

Distance to Limit of Disturbance: 419 ft.

Date and Time:
11/10/2022, 1:22 PM



Key Observation Point: 22

Location:
39.37031°N,
74.55278°W

View looking north from Zion Road, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 1.51 mi.

Date and Time:
11/10/2022, 1:43 PM



Key Observation Point: 23

Location:
39.37352°N,
74.56181°W

View looking northwest from Burton Avenue, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Recreation

Distance to Limit of Disturbance: 1.31 mi.

Date and Time:
11/10/2022, 1:51 PM



Key Observation Point: 24

Location:
39.37634°N,
74.56441°W

View looking north from Birch Grove Park, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Recreation

Distance to Limit of Disturbance: 1.16 mi.

Date and Time:
11/10/2022, 1:54 PM



Key Observation Point: 25

Location:
39.37688°N,
74.56524°W

View looking north from Birch Grove Park, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Inland Water

Distance to Limit of Disturbance: 1.15 mi.

Date and Time:
11/10/2022, 1:56 PM



Key Observation Point: 26

Location:
39.37867°N,
74.56477°W

View looking north-northwest from Birch Grove Park, City of Northfield, Atlantic County, New Jersey

Landscape Character Areas: Forest

Distance to Limit of Disturbance: 1.02 mi.

Date and Time:
11/10/2022, 1:59 PM



Key Observation Point: 27

Location:
39.37843°N,
74.57542°W

View looking south-southeast from Mill Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Low Density Residential

Distance to Limit of Disturbance: 1.38 mi.

Date and Time:
11/10/2022, 2:10 PM



Key Observation Point: 28

Location:
39.39902°N,
74.55716°W

View looking west-southwest from Lisa Lane, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: High Density Residential

Distance to Limit of Disturbance: 1,052 ft.

Date and Time:
11/10/2022, 2:20 PM



Key Observation Point: 29

Location:
39.39920°N,
74.55719°W

View looking south from Old Egg Harbor Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Commercial

Distance to Limit of Disturbance: 1,118 ft.

Date and Time:
11/10/2022, 2:21 PM



Key Observation Point: 30

Location:
39.39954°N,
74.55823°W

View looking south from Hempson Avenue, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: High Density Residential

Distance to Limit of Disturbance: 1,278 ft.

Date and Time:
11/10/2022, 2:24 PM



Key Observation Point: 31

Location:
39.40061°N,
74.55913°W

View looking north-northeast from Garden State Parkway, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Transportation

Distance to Limit of Disturbance: 1,722 ft.

Date and Time:
11/10/2022, 2:27 PM



Key Observation Point: 32

Location:
39.40048°N,
74.55922°W

View looking south-southeast from Garden State Parkway, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Transportation

Distance to Limit of Disturbance: 1,685 ft.

Date and Time:
11/10/2022, 2:28 PM



Key Observation Point: 33

Location:
39.39621°N,
74.55728°W

View looking south from
Fire Road, Egg Harbor
Township, Atlantic
County, New Jersey

**Landscape Character
Areas:** High Density
Residential

**Distance to Limit of
Disturbance:** 38 ft.

Date and Time:
11/10/2022, 2:37 PM



Key Observation Point: 34

Location:
39.40573°N,
74.58274°W

View looking southeast
from 2nd Avenue,
Egg Harbor Township,
Atlantic County, New
Jersey

**Landscape Character
Areas:** Low Density
Residential

**Distance to Limit of
Disturbance:** 1.51 mi.

Date and Time:
11/10/2022, 2:46 PM



Key Observation Point: 35

Location:
39.41040°N,
74.58674°W

View looking southeast from Atlantic County Bikeway (West Jersey Avenue), Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Low Density Residential

Distance to Limit of Disturbance: 1.86 mi.

Date and Time:
11/10/2022, 2:51 PM



Key Observation Point: 36

Location:
39.41019°N,
74.56529°W

View looking south from Tilton Road, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Medium Density Residential

Distance to Limit of Disturbance: 1.06 mi.

Date and Time:
11/10/2022, 3:00 PM



Key Observation Point: 37

Location:
39.38473°N,
74.51473°W

View looking south-southeast from Bay Drive, Egg Harbor Township, Atlantic County, New Jersey

Landscape Character Areas: Inland Bay

Distance to Limit of Disturbance: 2.21 mi.

Date and Time:
11/10/2021, 11:40 AM



Key Observation Point: 38

Location:
39.40173°N,
74.50601°W

View looking southeast from East Delilah Road, City of Pleasantville, Atlantic County, New Jersey

Landscape Character Areas: Salt Marsh

Distance to Limit of Disturbance: 2.68 mi.

Date and Time:
11/10/2021, 12:11 PM

Atlantic Shores Offshore Wind

Egg Harbor Township, Atlantic County, New Jersey

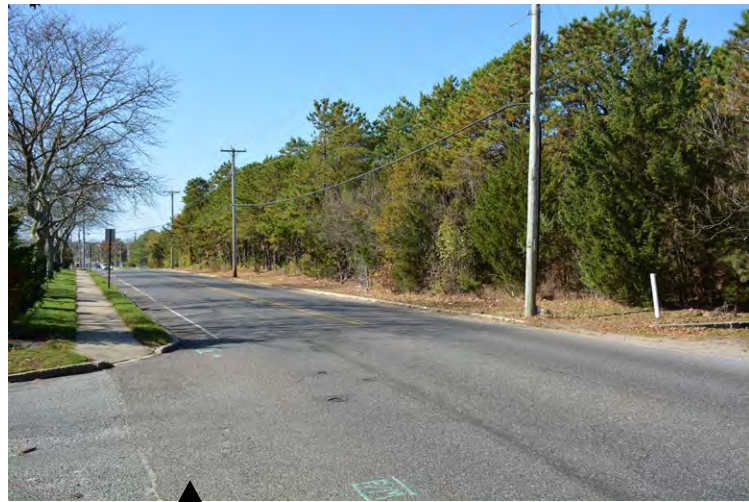
Attachment B: Viewpoint Location Map and Photo Log of Viewpoints

Attachment C

Photosimulation of the Fire Road Substation/Converter Station

Key Observation Point 8: Hingston Avenue

Egg Harbor Township, Atlantic County, New Jersey



W



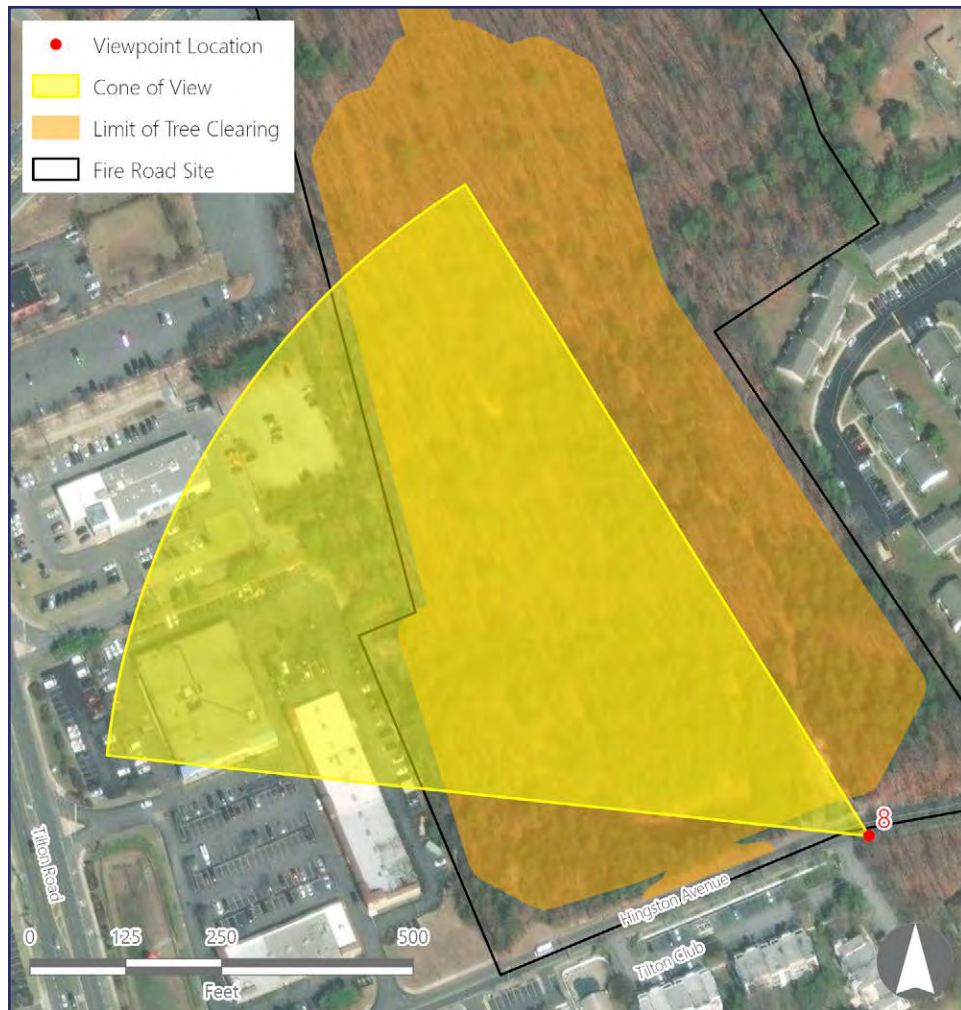
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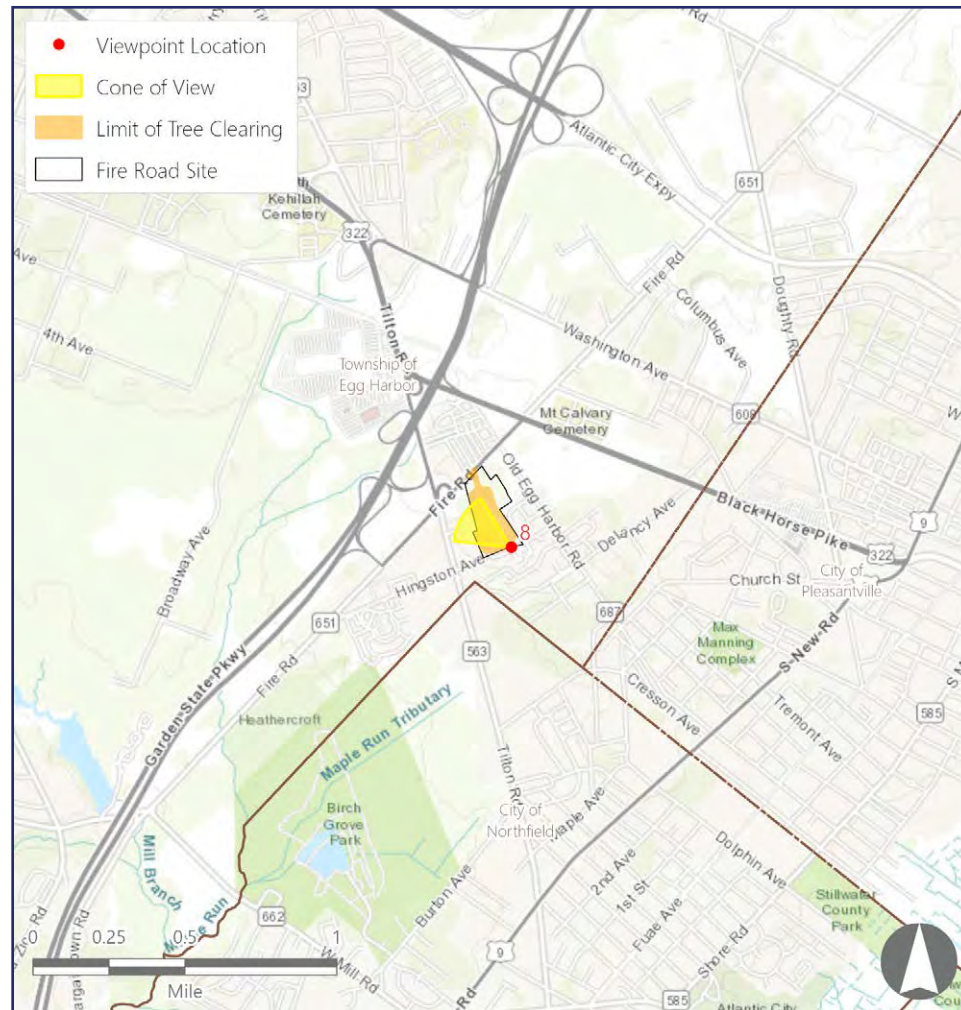
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Location Map



Context Map



Simulation Information

Location Information	
Coordinates:	39.39232° N, 74.55503° W
Landscape Character Area:	High Density Residential
Direction of View:	Northwest
Viewer Distance to Site:	11 feet
Visually Sensitive Resource(s):	EJA - 340010118032

Environmental Information

Date Taken:	11/10/2022
Time:	12:24 PM
Temperature:	67°F
Humidity:	66%
Visibility:	10 miles
Wind Direction:	East-southeast
Wind Speed:	6 mph
Conditions Observed:	Fair

Photograph Information

Camera:	NIKON D7100
Resolution:	23.5 Megapixels
Focal Length:	24mm
Camera Height:	54 feet AMSL

Existing Conditions



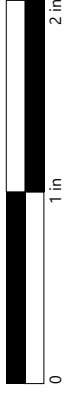
Atlantic Shores Offshore Wind Project Onshore Facilities - Cardiff

Egg Harbor Township, Atlantic County, New Jersey

Key Observation Point 8: Hingston Avenue

Attachment C: Photosimulation of the Substation/Converter Station: Page 2 of 7

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



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

Photosimulation



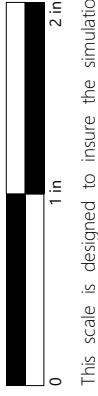
Atlantic Shores Offshore Wind Project Onshore Facilities - Cardiff

Egg Harbor Township, Atlantic County, New Jersey

Key Observation Point 8: Hingston Avenue

Attachement C: Photosimulation of the Substation/Converter Station: Page 3 of 7

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



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

Photosimulation (Mitigation After 5-7 Years of Growth)



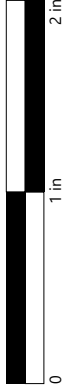
Atlantic Shores Offshore Wind Project Onshore Facilities - Cardiff

Egg Harbor Township, Atlantic County, New Jersey

Key Observation Point 8: Hingston Avenue

Attachment C: Photosimulation of the Substation/Converter Station: Page 4 of 7

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



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

Key Observation Point 17: Tilton Road

Egg Harbor Township, Atlantic County, New Jersey



N

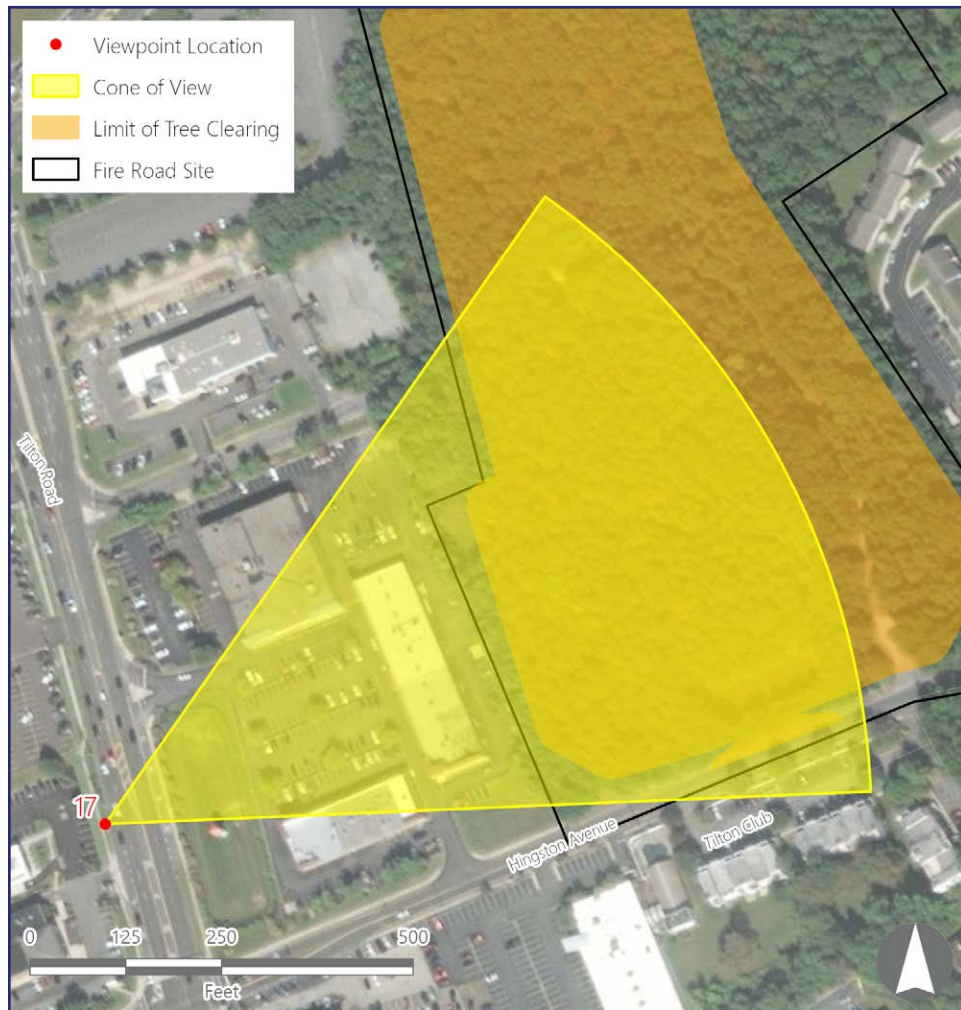


Simulated Photograph

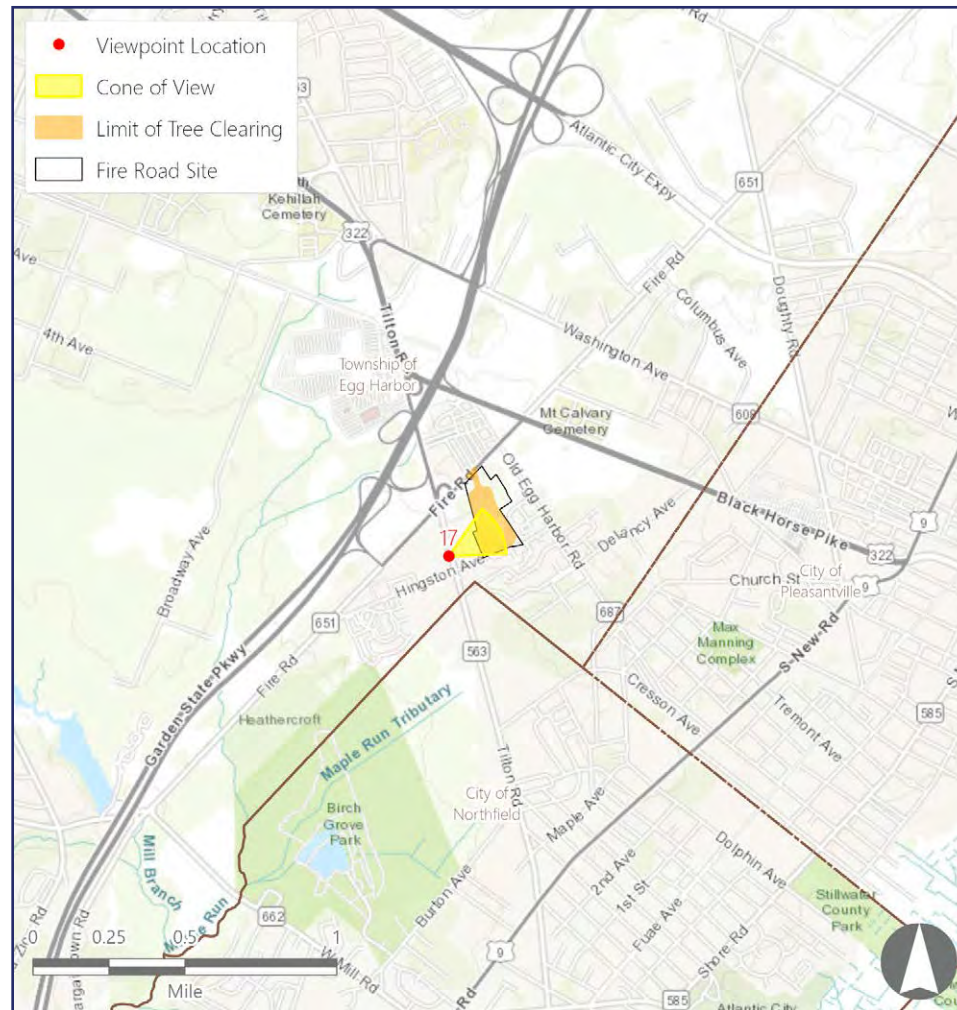


E

Location Map



Context Map



Simulation Information

Location Information

Coordinates:	39.39194° N, 74.55888° W
Landscape Character Area:	Commercial
User Group(s):	Residents/Tourists, Through-Travelers
Direction of View:	Northeast
Viewer Distance to Site:	548 feet
Visually Sensitive Resource(s):	EJA - 340010118031

Environmental Information

Date Taken:	11/10/2022
Time:	1:06 PM
Temperature:	68°F
Humidity:	56%
Visibility:	10 miles
Wind Direction:	South-southeast
Wind Speed:	12 mph
Conditions Observed:	Fair

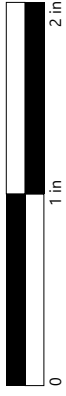
Photograph Information

Camera:	NIKON D7100
Resolution:	23.5 Megapixels
Focal Length:	24mm
Camera Height:	38 feet AMSL

Existing Conditions



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



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

Photosimulation



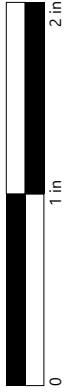
Atlantic Shores Offshore Wind Project Onshore Facilities - Cardiff

Egg Harbor Township, Atlantic County, New Jersey

Key Observation Point 17: Tilton Road

Attachment C: Photosimulation of the Substation/Converter Station: Page 7 of 7

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



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