



## Appendix II-N2

### Historic Resources Visual Effects Assessment (HRVEA) – Cardiff Alternative

#### Note:

On March 26, 2021, Atlantic Shores Offshore Wind, LLC (Atlantic Shores) submitted a Construction and Operations Plan (COP) to BOEM for the southern portion of Lease OCS-A 0499. On June 30, 2021, the New Jersey Board of Public Utilities (NJ BPU) awarded Atlantic Shores an Offshore Renewable Energy Credit (OREC) allowance to deliver 1,509.6 megawatts (MW) of offshore renewable wind energy into the State of New Jersey. In response to this award, Atlantic Shores updated Volume 1 of the COP to divide the southern portion of Lease OCS-A 0499 into two separate and electrically distinct Projects. Project 1 will deliver renewable energy under this OREC allowance and Project 2 will be developed to support future New Jersey solicitations and power purchase agreements.

As a result of the June 30, 2021 NJ BPU OREC award, Atlantic Shores updated Volume I (Project Information) of the COP in August 2021 to reflect the two Projects. COP Volume II (Affected Environment) and applicable Appendices do not currently include this update and will be updated to reflect Projects 1 and 2 as part Atlantic Shores' December 2021 COP revision.

# Historic Resources Visual Effects Assessment

## Atlantic Shores Offshore Wind Project – Cardiff Onshore Substation (Alternative)

Egg Harbor Township, Atlantic County, New Jersey

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## MANAGEMENT SUMMARY

Involved State/Federal Agencies:	Bureau of Ocean Energy Management New Jersey State Historic Preservation Office New Jersey Department of Environmental Protection
Phase of Survey:	Historic Resources Visual Effects Assessment
Location Information:	Egg Harbor Township, Atlantic County, New Jersey
Onshore Substation Site:	An approximately 23.9-acre (9.7 ha) parcel consisting of an existing paved lot
USGS 7.5-Minute Quadrangles:	<i>Pleasantville, NJ</i>
Historic Resources Visual Effects Assessment Overview:	<p>The Historic Resources Study Area for the Historic Resources Visual Effects Assessment includes a 1-mile (1.6 km) radius from the proposed Alternative Cardiff Onshore Substation (as further described herein).</p> <p>There are 16 previously identified aboveground historic properties, which include:</p> <ul style="list-style-type: none"><li>• A total of two historic districts that were previously determined to be S/NRHP-eligible; and</li><li>• A total of 14 NJHPO-identified aboveground historic properties without formal determinations of S/NRHP eligibility</li></ul>
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Date of Report:	March 2021

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## ATTACHMENTS

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## **1.0 INTRODUCTION**

### **1.1 Purpose of the Investigation**

On behalf of Atlantic Shores Offshore Wind, LLC (Atlantic Shores), a 50/50 joint venture between EDF-RE Offshore Development, LLC, a wholly-owned subsidiary of EDF Renewables, Inc. (EDF Renewables) and Shell New Energies US LLC (Shell), Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) prepared this Historic Resources Visual Effects Assessment (HRVEA) for the proposed Alternative Cardiff Onshore Substation (hereafter, the substation), located in Egg Harbor Township, Atlantic County, New Jersey (see Figure 1.1-1). The HRVEA was prepared to assist the New Jersey Department of Environmental Protection (NJDEP), New Jersey State Historic Preservation Office (NJHPO), the Bureau of Ocean and Energy Management (BOEM), and other relevant New Jersey State and/or Federal agencies and consulting partners in their review of the substation under Section 7:4 of the NJAC, the State of New Jersey Executive Order #215, and/or Section 106 of the National Historic Preservation Act (NHPA), as applicable, and in support of the Atlantic Shores Construction and Operations Plan (COP) for Atlantic Shores' proposal to develop the Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0499 for the generation of renewable energy generation from offshore wind.

The purpose of the HRVEA is to identify and document aboveground historic properties within the substation's Area of Potential Effect (APE) (as described below in Section 1.2) that have been previously identified by NJHPO. The HRVEA has been conducted by professionals who satisfy the qualifications criteria per the Secretary of the Interior's Standards for archaeology and historic preservation (36 CFR 61), as appropriate. The HRVEA was prepared in accordance with applicable portions of NJAC § 7:4-8.6, *Standards for Architectural Survey Reports* (NJHPO, 2008). A Phase IA archaeological survey assessing the potential impacts of the substation on subsurface cultural resources is being prepared and will be provided under separate cover as Appendix II-P1 of the COP.





## 1.2 Substation Location and Description

The Project involves the construction and operation of the Alternative Cardiff Onshore Substation, located in Egg Harbor Township, Atlantic County, New Jersey (see Figure 1.1-1). The substation is an onshore component of the Atlantic Shores Offshore Wind Project (the Project). The potential effect on aboveground historic properties from the Project's offshore facilities will be presented under separate cover.

The Alternative Cardiff Onshore Substation is a gas-insulated substation consisting of two static synchronous compensators (STATCOM), an aboveground system of electrical bus bars and transformers, and a control building. The tallest component of the substation will be the lightning mast which will be up to 80 feet (24.4 m) tall. The substation will receive electricity produced by the offshore components of the Project via a buried onshore interconnection cable to convert the incoming voltage is transformed to the voltage at the existing grid point of interconnection (POI).

The following terms are used throughout this document to describe the proposed action:

Atlantic Shores Offshore Wind Project: Atlantic Shores' proposal to develop the Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0499 for the generation of renewable energy from offshore wind comprised of up to 200 total wind turbine generator (WTG) and up to 10 offshore substation (OSS) positions, or The Project.

Cardiff Onshore Substation: A landside gas-insulated substation constructed for Atlantic Shores that contains transformers and other electrical gear, or the substation.

Cardiff Onshore Substation Site: The parcel of land where an onshore substation may be located, consisting of an approximately 23.9-acre (9.7 ha) existing paved lot in Egg Harbor Township, Atlantic County, New Jersey (see Figure 1.3-1), or the substation site.

Historic Resources Study Area: The area within 1 mile (1.6 km) of the onshore substation site boundary (see Figure 1.3-1).

APE for Direct Effects: The APE for Direct Effects for the substation is the area containing all proposed soil disturbance associated with the substation. This includes all land-based soil disturbance associated with the Cardiff Onshore Substation (see Figure 1.3-1).

APE for Indirect Effects: The APE for Indirect Effects on aboveground historic properties includes those areas where the substation may result in indirect effects on aboveground historic properties, such as visual or auditory impacts. As presently envisioned, the APE for Indirect Effects would be confined to areas where the proposed substation would be visible (based on viewshed analysis) or where noise created by the substation would be audible. Therefore, the APE for Indirect Effects will include those areas within 1 mile (1.6 km) around the substation where the components are anticipated to be visible. For the purposes of this report, the APE for Indirect Effects is coterminous with the Historic Resources Study Area, as defined in Section 1.3 (see Figure 1.3-1).

For the purposes of evaluating the potential effect of the substation on previously identified aboveground historic properties, the following terms are used throughout the HRVEA report:

- *S/NRHP-Listed Above-Ground Historic Property* is defined as buildings, districts, objects, structures and/or sites that have been added to the New Jersey and/or National Register of Historic Places;
- *S/NRHP-Eligible Above-Ground Historic Property* is defined as buildings, districts, objects, structures and/or sites that have been determined by NJHPO as eligible for listing in the New Jersey and National Register of Historic Places, as indicated by inclusion in the publicly available data on the LUCY website and the NJHPO's quarterly updated listing of S/NRHP-listed and -eligible above ground historic properties; and
- *NJHPO-Identified Above-Ground Historic Property* is defined as buildings, districts, objects, structures and/or sites that are included in the publicly available data on the LUCY website as having been surveyed, but for which there has not been a formal determination of S/NRHP eligibility.

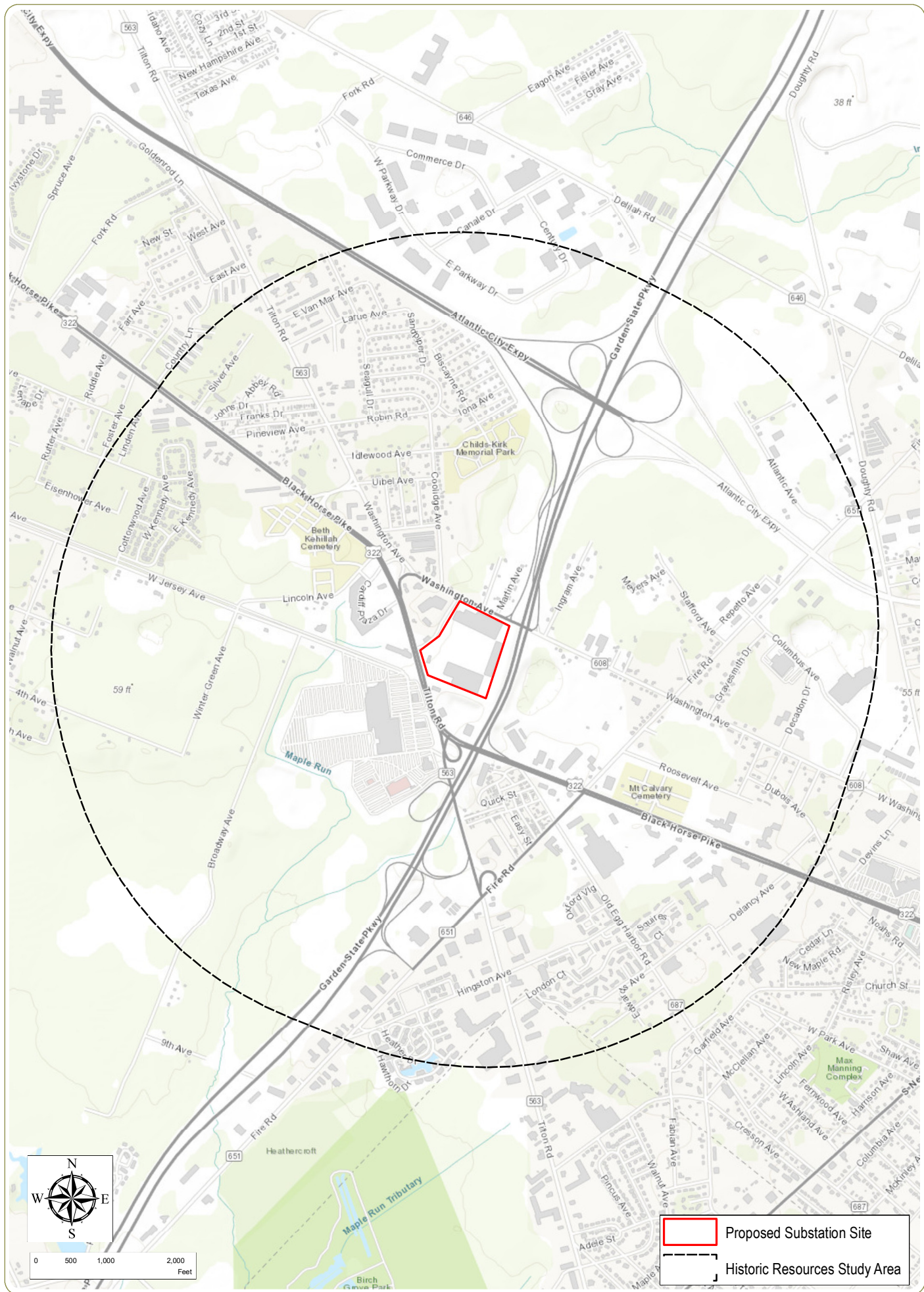
### **1.3 Historic Resources Study Area and Area of Potential Effect (APE)**


Construction of the substation will not require the demolition or physical alteration of any buildings or other aboveground historic properties. The potential effect of the substation on a given historic property would be a change in the property's visual setting resulting from the introduction of new structures/buildings. As it pertains to historic properties, *setting* is defined as "the physical environment of a historic property" and is one of seven aspects of a property's *integrity*, which refers to the "ability of a property to convey its significance" (NPS, 1990). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990).


The APE for Direct Effects for the substation is defined as all areas where potential soil disturbance (or other direct, physical impacts) is anticipated during construction of the substation. The APE for Direct Effects for the substation is an approximately 23.9-acre (9.7 ha) paved lot at the Cardiff Center strip mall, located at 6718 Black Horse Pike.

The APE for Indirect Effects on aboveground historic properties includes those areas where the substation may result in indirect effects on a given historic property, such as visual or auditory impacts (resulting from the introduction of new stacks or other substation components) in the property's setting. Indirect effects could theoretically consist of auditory and/or visual impacts. In order to provide the most conservative assessment of potential impacts, the APE for Indirect Effects will include all areas within 1 mile (1.6 km) of the proposed substation and is therefore coterminous with the Historic Resources Study Area (see Figure 1.3-1).





 Proposed Substation Site

 Historic Resources Study Area

#### **1.4 Agency Consultation**

The submission of this HRVEA is provided as the initial consultation with NJHPO for the substation. Preliminary correspondence with NJHPO (see Appendix A) was limited to requests for determinations of eligibility for individual aboveground historic properties. The APE for a project is determined through consultation with the relevant State Historic Preservation Offices (SHPOs), in this case NJHPO, and Tribal Historic Preservation Offices (THPOs). Therefore, this HRVEA presents a preliminary APE for Indirect Effects as formal consultation has not yet been initiated.

## **2.0 BACKGROUND AND SITE HISTORY**

### **2.1 History of the Historic Resources Study Area**

Archives and repositories consulted during EDR's research for the substation included the online digital collections of the Library of Congress, online collections of the Egg Harbor Branch Atlantic County Public Library, online resources of the Atlantic County Office of Cultural and Heritage Affairs, David Rumsey Historical Map Collection, and the United States Geological Survey (USGS), and EDR's in-house collection of reference materials. Additionally, EDR reviewed the *History of Atlantic City and County, New Jersey* (Hall, 1900), *History of New Jersey* (Meredith and Hood, 1921), the *Story of New Jersey's Civil Boundaries 1606-1968* (Snyder, 1969), and *Atlantic County Master Plan* (Atlantic County, 2000) for the historic context of the substation site and Historic Resources Study Area.

The substation is located in the Egg Harbor Township, Atlantic County, New Jersey. Atlantic County's 671 square miles (1,738 sq km) are situated along the Atlantic Coastal Plain, roughly 100 miles (161 km) south of New York City and divided into 23 municipal subdivisions, including townships, cities, towns, boroughs, and villages.

New Jersey has been the site of human occupation for at least 8,000 years. At the time of European first contact, Atlantic County, like most of New Jersey, was occupied by the Lenni Lenape people. The local branch was the Unalachtigo Lenape, or the "people who live near the ocean" (Snyder, 1969). The first European voyagers included the Dutch, Finns, and Swedes, who founded competing trade settlements along the coast from present-day Cape May to Trenton. The Finnish and Swedish colonies, however, did not receive enough support from their respective home countries, and suffered from a lack of financial and human resources. In 1655, Peter Stuyvesant sent a fleet of Dutch ships to raid the Finnish and Swedish settlements, resulting in the Dutch taking over control of the area for New Netherland (Meredith and Hood, 1921; Snyder, 1969).

The New Jersey colonies came under English control when the Dutch were defeated in 1664. For the next century, emigres from Holland, Huguenots from France, and Scots, among others, made New Jersey their home. During this early colonial period the colony was split into two halves, East and West Jersey. In 1686, the area comprising the Historic Resources Study Area was located in Gloucester County in West Jersey. Gloucester County split from Burlington County. In 1693, Great Egg Harbor Township, or simply Egg Harbor, was formed. During the American Revolution, southern New Jersey was the site of many battles. For four months in 1783, the City of Princeton served as the United States' capital (Meredith and Hood, 1921; Snyder, 1969).

Atlantic County was formed in 1837 from the townships of Egg Harbor, Galloway, Hamilton, and Weymouth (Snyder, 1969). The first deed sold in Atlantic County was in the Township of Egg Harbor in the same year and included 40

acres (16.2 ha) of land to Samuel Saunders. An economy around the production of iron arose in the early nineteenth century in the vicinity of Egg Harbor City, but the ore supply was exhausted by the turn of the century (Hall, 1900). In addition, Cape May and Atlantic City emerged as major resort attractions on the Atlantic Ocean during the nineteenth century. In 1854, a rail line connecting the seashore to areas inland was constructed through Egg Harbor Township, which precipitated growth. By the turn of the twentieth century, most of the residents in Atlantic County lived in Atlantic City (Morrison, 1950; Atlantic County, 2000). During the early-twentieth century, Egg Harbor was also center for the manufacturing of cut glass and clothing (Meredith and Hood, 1921).

During the first half of the twentieth century, Atlantic County, specifically Atlantic City, continued to grow and remain popular. However, during the second half of the twentieth century, the population shifted from Atlantic City to the suburban county areas, following the nation-wide trends. In 1976, New Jersey passed an act which legalized gambling in Atlantic City. Consequently, fears of an economic boom in the suburban areas prompted various environmental conservation laws to protect the natural resources from improper development and suburban sprawl. At the beginning of the twenty-first century, Atlantic County was undergoing gentrification in some populated areas where the transition from multi-family apartment housing to new single-family dwellings occurred. In the suburban areas, senior housing developments were being constructed in response to the area's aging population (Atlantic County, 2000).



**Figure 2.1-1 View to the northwest along Black Horse Pike.**

This view illustrates the commercial development by the third quarter of the twentieth century, including the newly constructed Shore Mall (currently Harbor Square Mall) is visible in the background, circa 1968 (Shore Local News, 2018).

In the Historic Resources Study Area, the construction of the Garden State Parkway in 1955 precipitated commercial development at the interchanges. The Harbor Square Mall, originally known as the Shore Mall, then Searstown Mall, was first constructed in 1968. Other plazas and shopping centers followed in the 1970s, including Cardiff Center. Some small-scale residential development also took place, including mobile homes parks, and intermittent groups of one-story prefabricated homes around the periphery of the commercial centers.

## 2.2 Previously Identified Above-Ground Historic Properties

EDR reviewed the Look Up Cultural Resources Yourself (LUCY) website maintained by NJHPO to identify significant historic buildings, resources and/or districts located within the 1-mile (1.6 km) Historic Resources Study Area for the Cardiff Onshore Substation (NJHPO, 2020a). Previously identified S/NRHP-eligible aboveground historic properties within the Historic Resources Study Area include two historic districts located along automotive and railway transportation corridors. Information regarding aboveground historic properties listed in or eligible for listing in the S/NRHP is available online in the form of an annotated bibliography which is updated quarterly<sup>1</sup>. Due to the COVID-19 pandemic, accessibility to NJHPO documentation is limited. However, a request was submitted to NJHPO via email on September 22, 2020 for digitized determinations of eligibility and NJHPO opinions. On October 7, 2020, NJHPO staff responded to the request via email, providing scanned determinations of eligibility for the requested aboveground historic properties. A copy of this correspondence is included as Appendix A.

A total of 16 aboveground historic properties in the Historic Resources Study Area were identified, including two aboveground historic properties previously determined eligible for listing in the S/NRHP by NJHPO and 14 individual aboveground historic properties have not been formally evaluated by NJHPO for S/NRHP eligibility. These properties are included in Table 2.1-1 below. The location of these aboveground historic properties is depicted in Figure 2.2-1.

**Table 2.2-1. Previously Identified Above-Ground Historic Properties**

Map ID	Name (if applicable)	Address	Description	S/NRHP Eligibility Status	Source
1	West Jersey and Atlantic Railroad Historic District	A former railway between Atlantic City and May's Landing, New Jersey	A 34.2-mile (55 km) long former railway constructed in 1880 between Atlantic City and May's Landing, New Jersey. The West Jersey and Atlantic Line was abandoned by 1966 (Gladulich, 1986). It was determined eligible for listing S/NRHP by NJHPO in 1996.	S/NRHP-Eligible Resource (NJHPO Determined)	NJHPO Data File, Online Bibliography (NJHPO, 2020b)
2	Garden State Parkway	Multi-lane highway between	A 173-mile (278.4 km) highway constructed between 1946 and 1955 that linked	S/NRHP-Eligible	NJHPO Data File, Online

<sup>1</sup> Available at [https://www.nj.gov/dep/hpo/1identify/nrsr\\_lists.htm](https://www.nj.gov/dep/hpo/1identify/nrsr_lists.htm).



Map ID	Name (if applicable)	Address	Description	S/NRHP Eligibility Status	Source
	Historic District	Patterson and Cape May, New Jersey.	Patterson to Cape May, New Jersey. The roadway design was led by engineers Harold Griffin, who has been attributed to the invention of the traffic circle, the reflective shoulder, and rumble strips (NJTA, 2020). The Garden State Parkway has been recognized as an engineering achievement and was determined eligible for listing in the S/NRHP by NJHPO in 2001.	Resource (NJHPO Determined)	Bibliography (NJHPO, 2020b)
3	Gormley Electric	6672 Black Horse Pike	A late twentieth century one-story modular home.	NJHPO-Identified Resource	NJHPO Data File
4	Wa Wa	6678 Black Horse Pike	A one-story convenience store, circa 2013.	NJHPO-Identified Resource	NJHPO Data File
5	None	6708 Washington Avenue	An early twentieth century one-story stucco house.	NJHPO-Identified Resource	NJHPO Data File
6	Deltona Tire	6700 Black Horse Pike	A mid-twentieth century one-story automotive garage.	NJHPO-Identified Resource	NJHPO Data File
7	None	103 Martin Avenue	An early twenty-first century two-story residence.	NJHPO-Identified Resource	NJHPO Data File
8	None	100 Martin Avenue	A mid-twentieth century one-story modular home.	NJHPO-Identified Resource	NJHPO Data File
9	Rickels Shopping Center	6701 Black Horse Pike	A late twentieth century one-story open-air shopping plaza.	NJHPO-Identified Resource	NJHPO Data File
10	Lee's Food	6730 Washington Avenue	A late twentieth century one-story brick restaurant.	NJHPO-Identified Resource	NJHPO Data File
11	Searstown Mall (aka, Harbor Square Mall)	6725 Black Horse Pike	A one-story shopping mall built in 1968.	NJHPO-Identified Resource	NJHPO Data File
12	84 Lumber Company	6738 Black Horse Pike	A late twentieth-century one-story warehouse structure.	NJHPO-Identified Resource	NJHPO Data File
13	Bennett Chevrolet	6740 Black Horse Pike	A late twentieth or early twenty-first century one-story automotive retail center.	NJHPO-Identified Resource	NJHPO Data File



Map ID	Name (if applicable)	Address	Description	S/NRHP Eligibility Status	Source
14	Mount Calvary Cemetery	6804 Black Horse Pike	An approximately 15-acre (6.1 ha) cemetery with an estimated 650 headstones, established circa 1900.	NJHPO-Identified Resource	NJHPO Data File
15	None	6704 Tilton Road	A vacant and deteriorated wood one-story vernacular house.	NJHPO-Identified Resource	NJHPO Data File
16	Pleasantville Mobile Home Court (aka, Harbor Crossings)	6737 Black Horse Pike	A mobile home community consisting of approximately 22 acres (8.9 ha) and over 50 residences, including single- and double-wide prefabricated homes and a one-story brick business office, circa 1970.	NJHPO-Identified Resource	NJHPO Data File



### 2.3 Previous Cultural Resources Surveys

A review of the NJHPO website indicates that two previous cultural resources surveys have been conducted within the Historic Resources Study Area. These reports include archaeological surveys, architectural surveys, mitigation plans and reports, and combined architectural and archaeological surveys, and are on file at the NJHPO at Trenton, NJ. Information regarding previous cultural resources surveys is available online in the form of an annotated bibliography which is updated quarterly by NJHPO, and which are available for review by appointment at NJHPO's Trenton, New Jersey offices. As mentioned previously, due to the COVID-19 pandemic, accessibility to NJHPO documentation at their offices is limited. However, a request was submitted via email on September 22, 2020 for digitized cultural resources surveys within the Historic Resources Study Area. On October 7, 2020, NJHPO staff responded to the request via email indicating that NJHPO could not provide electronic versions of cultural resources survey. A copy of this correspondence is included as Appendix A.

In order to provide the most conservative enumeration of previous historic resources surveys possible, the list below includes all reports noted in NJHPO's bibliography as historic architecture reports located within the Egg Harbor Township where the survey boundaries are not explicit. County-wide surveys were also included in order to provide a comprehensive view of all previous historic resource surveys that have occurred within the Historic Resources Study Area.

They include the following titles:

- *Atlantic County Sewerage Authority, Atlantic County, NJ; Lower Great Egg Harbor River Region Facilities Plan; Cultural Resource Survey, Coastal Region Alternative Development, Railroad Interceptor Route* (Wilson, 1980);
- *Phase IB/II Cultural Resource Investigation, Atlantic City Electric Northern Line Upgrade Program* (Paulus, Sokolowski, and Sartor, LLC, 2016); and
- *Atlantic City Electric Northern Lines Upgrade Program, Salem, Gloucester, Cumberland, and Atlantic Counties, New Jersey, Phase II Supplemental Report for Architectural History* (Paulus, Sokolowski, and Sartor, LLC, 2017).

### 2.4 Existing Conditions

The proposed substation will be located in Egg Harbor, Atlantic County, approximately 1.8 miles (2.9 km) south of the Atlantic City Airport. The Historic Resources Study Area is set in a developed commercial context featuring major multi-lane roadways, shopping malls, national chain stores, paved parking areas, and concentrated communities of modular homes. These commercial and residential structures are located along the major highways, including the Garden State

Parkway, U.S. Route 40, and County Route 651 which intersect in a triangle pattern to the south of the proposed substation location. Outside of these developed areas are intermittent areas of undeveloped forest vegetation.

The proposed location of the substation is an approximately 23.9-acre (9.7 ha) parcel located at 6718 Black Horse Pike, currently occupied by an open-air strip mall known as the Cardiff Center. The Cardiff Center consists of three one-story commercial structures arranged in a C-pattern around a large, paved parking area. Each structure features typical late twentieth century prefabricated commercial detailing such as Masonite siding, covered breezeways, ceiling-high front windows, and functional, unadorned sides and rear elevations. Review of aerial photography indicates that Cardiff Center was constructed between 1970 and 1977 (Atlantic County, 2020). The site is bound to the north by a small residential neighborhood and some forestation, to the east by the Garden City Parkway, and to the south and west by Black Horse Pike and dense commercial development (see Figure 2.4-1).





Figure 2.4-1 Aerial view of the existing conditions near the proposed substation site (Google Earth, 2020).

### 3.0 POTENTIAL EFFECT ON ABOVE-GROUND HISTORIC PROPERTIES

#### 3.1 Criteria for Evaluating the Significance of Above-Ground Historic Properties

Criteria set forth by the National Park Service for evaluating historic properties (36 CFR §60.4) state that a historic building, district, object, structure or site is significant (i.e., eligible for listing on the S/NRHP) if the property conveys:

*The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:*

- (A) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
- (B) that are associated with the lives of persons significant in our past; or*
- (C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- (D) that have yielded, or may be likely to yield, information important in prehistory or history (CFR, 2004a; NPS, 1990).*

Historically significant properties are defined by NJAC 7:4-1:3 as follows:

*"Historic property" means any district, site, building, structure or object significant in American history, architecture, archaeology, engineering and culture.*

#### 3.2 Setting of Above-Ground Historic Properties within the Historic Resources Study Area

The substation is located within an area that has experienced a relatively high level of commercial and some limited residential development as the result of the construction of the Garden State Parkway and interchange. The substation will be located on the site of paved lot currently occupied by the Cardiff Center strip mall (see Figure 3.2-1). Views from the proposed substation location are of modern commercial structures, major multi-lane highways, and some undeveloped forested areas.





**Figure 3.2-1 View to the east toward the Cardiff Center strip mall.**

The aboveground historic properties within the Historic Resources Study Area are located within the context of a commercial enclave adjacent to the Garden State Parkway that has been developed since the late twentieth century. Prior to the construction of the Garden State Parkway, the area was primarily forested and undeveloped. With the exception of the portions of the West Jersey and Atlantic Railroad Historic District located within the Historic Resources Study Area, all of the previously identified aboveground historic properties were constructed during the period of commercial development beginning in the mid-twentieth century and continuing into the early-twenty-first century.

### **3.3 Potential Effect on Above-Ground Historic Properties**

The Federal Regulations entitled “Protection of Historic Resources” (36 CFR Part 800) include in Section 800.5(2) a discussion of potential adverse effects on historic resources. The following types of effects apply to the proposed substation (emphasis added):

*Adverse effects on historic properties include, but are not limited to: [items i-iii do not apply]; (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.bv. . ."; [items vi-vii do not apply]" (CFR, 2004b).*

The substation's potential effect on a given aboveground historic property would be a change (for instance, resulting from the introduction of new visual elements, such as substation lighting masts) in the property's setting. As it pertains to historic properties, *setting* is defined as "the physical environment of a historic property" and is one of seven aspects of a property's *integrity*, which refers to the "ability of a property to convey its significance" (NPS, 1990:44-45). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990).

The NJAC 7:4-1.3 defines "encroachment" as follows:

*"Encroachment" means the adverse effect upon any district, site, building, structure or object included in the New Jersey Register resulting from the undertaking of a project by the State, a county, municipality or an agency or instrumentality thereof, as determined by application of the Criteria for Determining Whether an Undertaking Constitutes an Encroachment set forth in N.J.A.C. 7:4-7.4 and the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 C.F.R. 68) and "Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (guidelines issued by the National Park Service, incorporated herein by reference) and available from the Historic Preservation Office, PO Box 420, Trenton, New Jersey 08625-0420) or from the Historic Preservation Office website ([www.state.nj.us/dep/hpo](http://www.state.nj.us/dep/hpo)) or from the National Park Service website ([www.nps.gov](http://www.nps.gov)) or subsequent amendments thereto adopted by the Secretary of the United States Department of the Interior and the National Park Service (NJAC, 2015)."*

Adverse effects on historic properties (i.e., encroachment) are further defined in NJAC 7:4-7.4, *Criteria for determining whether an undertaking constitutes an encroachment or will damage or destroy the historic property*, which states:

- (a) *An undertaking will have an adverse effect and therefore constitute an encroachment when the effect of the undertaking on a property listed in the New Jersey Register may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.*

*Encroachments include, but are not limited to:*

1. *Physical destruction, damage, or alteration of all or part of the registered property;*

2. *Isolation of the registered property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the New Jersey Register;*
3. *Introduction of visual, audible, or atmospheric elements that are out of character with the registered property or alter its setting; and*
4. *Acquisition, transfer, sale, lease, easement on, or an agreement or other permission allowing use of a registered property (NJAC,2015).*

The potential effect of the substation on the visual setting associated with aboveground historic properties is highly variable and is dependent on a number of factors including the distance to the substation, the height of the visible components relative to nearby existing structures, the extent to which the substation is screened or partially screened by buildings, trees, or other objects, and the amount of existing visual clutter and/or modern intrusions in the view. Visual setting also may be an important factor contributing to a given property's historical significance.

Based on the relatively low-profile of the proposed substation equipment, EDR defined a 1-mile (1.6 km) Historic Resources Study Area around the property associated with the proposed substation. While visibility beyond 1 mile is possible, the nature and degree of potential visual impacts will be minimal beyond 1 mile due to the density of existing modern development and infrastructure located within the Historic Resources Study Area.

#### Potential Direct Effects

Construction of the substation will not require the demolition or physical alteration of any aboveground historic properties. Therefore, there will be no direct effect on the two historic districts previously determined to be eligible for listing in the S/NRHP by NJHPO located within the Historic Resources Study Area, or the 14 NJHPO-identified aboveground historic properties located within the Historic Resources Study Area. As noted in Section 1.2, the onshore interconnection cable will be buried along existing roadways and therefore is not anticipated to have an adverse visual effect to aboveground historic properties.

#### Potential Indirect Effects

Due to the existing conditions within the Historic Resources Study Area, a heavily traveled commercial corridor that has been developed since the middle of the twentieth century with multilane highways and large commercial centers such as enclosed and open-air shopping malls, it is not likely that the proposed substation will create a noticeable visual intrusion into the surrounding landscape. The construction of the substation would likely not appear out of place in the context of modern buildings and infrastructure. Therefore, it is unlikely that the proposed substation would have

any indirect visual effect on the two S/NRHP-eligible historic districts, each of which span dozens or hundreds of miles, passing through a variety of contexts, some more densely developed than the Historic Resources Study Area. Furthermore, the tallest part of the proposed substation would be the lightning mast, which would be up to 80 feet (24.4 m) tall, and therefore would not be significantly different in size and scale from the existing light poles found throughout the adjacent parking areas and along the roadways.

The anticipated levels of noise generated by onshore facilities are described in greater detail in an Onshore Noise Report, included as Appendix II-T to the COP. Noise generated by the proposed substation will depend on whether high voltage alternating current (HVAC) or high voltage direct current (HVDC) facilities are constructed. It is anticipated that the HVDC design would have generally lesser sound impacts on the surrounding community than HVAC technology. Therefore, only the HVAC onshore substation design was evaluated in this report in order to provide the most conservative assessment of potential noise effects. At this early stage of design, no equipment-specific sound level data were available, so worst-case approximations of potential sound power levels of each piece of equipment were assumed. The noise report results showed that some combination of quieter equipment and/or barrier walls may be needed at all four onshore substation sites in order to meet the NJ DEP sound limits. If necessary, screening will be implemented at the onshore substation sites to the extent feasible to reduce potential noise effects to aboveground historic properties.

In addition, aside from the two previously determined S/NRHP-eligible aboveground historic properties, none of the NJHPO-identified aboveground historic properties within the APE for Indirect Effects appear to satisfy S/NRHP eligibility criteria set forth by the NPS in 36 CFR §60.4, or to meet the New Jersey Register criteria set forth in NJAC 7:4. These properties consist of late twentieth century and early twenty-first century commercial structures such as gas stations, warehouses and shopping centers constructed within a heavily developed urban context, and as such would not be effected by the construction of additional modern infrastructure.

## **4.0 SUMMARY**

### **4.1 Summary of Historic Resources Visual Effects Assessment**

On behalf of Atlantic Shores, EDR prepared this HRVEA for the proposed Alternative Cardiff Onshore Substation.

There are 16 previously identified aboveground historic properties located within the Historic Resources Study Area for the Cardiff Onshore Substation, including:

- A total of two historic districts previously determined eligible for listing on the S/NRHP; and
- A total of 14 aboveground historic properties which were previously identified by the NJHPO.

Any potential indirect visual effect as the result of the substation due to the existing conditions and visual setting of the proposed substation site, that of a developed commercial center and transportation corridor, will be minimal. No further historic resources surveys are recommended in association with the substation. Noise levels generated by the proposed substations will vary based on the type of facilities (HVAC or HVDC) that are constructed. Further analysis on noise impacts resulting from onshore facilities is included in the Onshore Noise Report (Appendix II-T to the COP).

Per the results of the HRVEA described herein, the Alternative Cardiff Onshore Substation is not anticipated to result in adverse effects on aboveground historic properties. No further surveys or evaluations with respect to aboveground historic properties are recommended in association with the proposed substation.

## 5.0 REFERENCES

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**ATTACHMENT A. NJHPO CORRESPONDENCE**

**From:** [Romanoski, Christopher](#)  
**To:** [Andrew Roblee](#)  
**Subject:** RE: ATTN: Christopher - Documentation Request  
**Date:** Wednesday, October 7, 2020 2:43:25 PM  
**Attachments:** [SHPO Opinions for Andrew Roblee.zip](#)

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[EXTERNAL SENDER]

Andrew,

Attached please find the folder containing the SHPO Opinion letters for the projects you sent. I hope you have no trouble opening and accessing the files. Please note that "Wildthyme" and the Blansingburg School Historic District are in the same letter. I was unable to find the Opinion letter for NJS Stone Arch Bridge, unfortunately.

Regarding the reports, there is no current good way to get them out to researchers as they are not all digitized and the file sizes are sometimes too large to send via email. It's a knot we're working to unwind, but unfortunately that means that right now I am unable to send you the reports.

I hope this is at least somewhat helpful, and if you have any more specific questions feel free to reach out and I'll do my best to answer them.

Christopher

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**From:** Andrew Roblee <[aroblee@edrdpc.com](mailto:aroblee@edrdpc.com)>  
**Sent:** Tuesday, October 6, 2020 11:15 AM  
**To:** Romanoski, Christopher <[Christopher.Romanoski@dep.nj.gov](mailto:Christopher.Romanoski@dep.nj.gov)>  
**Subject:** [EXTERNAL] RE: ATTN: Christopher - Documentation Request

Thanks Christopher,

I understand and appreciate your attention to this. I would be grateful for whatever information you are able to provide. Stay safe!

**Andrew Roblee**  
Project Architectural Historian  
217 Montgomery Street, Suite 1000, Syracuse, New York 13202  
P. 315.471.0688 :: C. 315.224.6344 :: F. 315.471.1061  
E. [aroblee@edrdpc.com](mailto:aroblee@edrdpc.com) :: [www.edrdpc.com](http://www.edrdpc.com)

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**From:** Romanoski, Christopher <[Christopher.Romanoski@dep.nj.gov](mailto:Christopher.Romanoski@dep.nj.gov)>  
**Sent:** Tuesday, October 6, 2020 11:03 AM  
**To:** Andrew Roblee <[aroblee@edrdpc.com](mailto:aroblee@edrdpc.com)>  
**Subject:** RE: ATTN: Christopher - Documentation Request

[EXTERNAL SENDER]

Hi Andrew,

I'm sorry so much time has passed on this. I do not work at the HPO full time these days so I have to scatter my tasks through when I can work and there have been very pressing items on my agenda.

I will work on getting the SHPO opinions for you tomorrow as I'll be in the office with access to the files. I will have to get back to you regarding our current process for sending out full reports, as it may not be possible at this time because of email constraints.

Again I apologize and I hope you're well,  
Christopher

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**From:** Andrew Roblee <[aroblee@edrdpc.com](mailto:aroblee@edrdpc.com)>

**Sent:** Tuesday, September 22, 2020 3:31 PM

**To:** DEP NJHPO <[NJHPO@dep.nj.gov](mailto:NJHPO@dep.nj.gov)>

**Subject:** [EXTERNAL] ATTN: Christopher - Documentation Request

Hello Christopher,

Thank you for taking my call earlier and being so helpful. I have attached a spreadsheet with the eligible resources I was interested in. Let me know if there is enough information included on the sheets for this request. Any DOEs or SHPO opinions that provide background and/or descriptions of the resources would be greatly appreciated. I also included a list of Cultural Resources Surveys I was hoping to get ahold of as well. I know we didn't discuss that on the phone, so I apologize, but I thought I would throw these out there as well and see what might be available?

I would be extremely grateful for whatever assistance you might be able to provide.

P.S. We have a mutual colleague, Erin Frederickson. I was in grad school with her! She gave you high praise.

**Andrew Roblee**

Project Architectural Historian

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