ENVIRONMENTAL ASSESSMENT

EEW American Offshore Structures, Inc.

Final Environmental Assessment and Finding of No Significant Impact

August 2023

DOE/EA-2221

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ACRONYMS AND ABBREVIATIONS

Acronyms	Definition
APE	Area of Potential Effect
BFE	Base Flood Elevation
BMPs	best management practices
BP	British Petroleum
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
DA 1	Development Area 1
DA 2	Development Area 2
dBA	A-weighted decibels
Districts	New Jersey local soil conservation districts
DLRP	Division of Land Resource Protection
DLUR	Division of Land Use Regulation
DOE	U.S. Department of Energy
DPCC/DCR	Discharge Prevention, Containment, and Countermeasure/Discharge Cleanup and Removal
EA	Environmental Assessment
EEW or the Applicant	EEW American Offshore Structures, Inc.
EIS	Environmental Impact Statement
EJ	Environmental Justice
EJScreen	EJ Screening Tool
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 2005
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GCIA	Gloucester County Improvement Authority
GCSCD	Gloucester County Soil Conservation District
GCUA	Gloucester County Utilities Authority
GHGs	greenhouse gases
gpd	gallons per day
IPaC	Information for Planning and Consultation (USFWS)
HAP	hazardous air pollutant
LOMR	Letter of Map Revision
LPO	Loan Programs Office
LQG	Large Quantity Generator
LSRP	Licensed Site Remediation Professional
MW	megawatts
N.J.A.C.	New Jersey Administrative Code
NAAQS	National Ambient Air Quality Standards

Acronyms	Definition
NATA	National-Scale Air Toxics Assessment
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NHP	Natural Heritage Priority
NHPA	National Historic Preservation Act
NJDA	New Jersey Department of Agriculture
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
NJEDA	New Jersey Economic Development Authority
NJEIS	New Jersey State Environmental Impact Statement
NJPDES	New Jersey Pollutant Discharge Elimination System
NJSHPO	New Jersey State Historic Preservation Office
NJSM	New Jersey State Museum
NMFS	National Marine Fisheries Service
NO_X	nitrogen oxides
NRHP	National Register of Historic Places
O_3	ozone
OSHA	Occupational Safety and Health Administration
Pb	lead
PCP	Preconstruction Permit
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMT	Paulsboro Marine Terminal
PPI	Paulsboro Packaging, Inc.
ppm	parts per million
Project	EEW project
PTE	Potential to Emit
RCRA	Resource Conservation and Recovery Act
SESCP	Soil Erosion and Sediment Control Plan
SJPC	South Jersey Port Corporation
SO_X	sulfur oxides
SPMTs	self-propelled mobile tractors
tpy	tons per year
TSP	total suspended particulate
TSS	total suspended solids
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compounds
WDP	Waterfront Development Permit
WWTP	wastewater treatment plant

1.0 PURPOSE AND NEED

1.1 Introduction

Title XVII of the Energy Policy Act of 2005 (EPAct) established a federal loan guarantee program for certain projects that employ innovative technologies. The EPAct authorizes the Secretary of Energy to make loan guarantees available for those projects. Specifically, Title XVII identifies the projects as those that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued."

EEW American Offshore Structures, Inc. (EEW or the Applicant) has applied for a loan guarantee pursuant to the U.S. Department of Energy (DOE) Renewable Energy Project and Efficient Energy Projects Solicitation (Solicitation Number: DE-SOL-0007154) under Title XVII, Innovative Energy Loan Guarantee Program, authorized by the EPAct. The primary goal of the Renewable and Efficient Energy Projects program is to finance projects and facilities in the United States (U.S.) that employ innovative and renewable or efficient energy technologies that avoid, reduce, or sequester anthropogenic emission of greenhouse gases (GHGs).

1.2 Purpose and Need for Agency Action

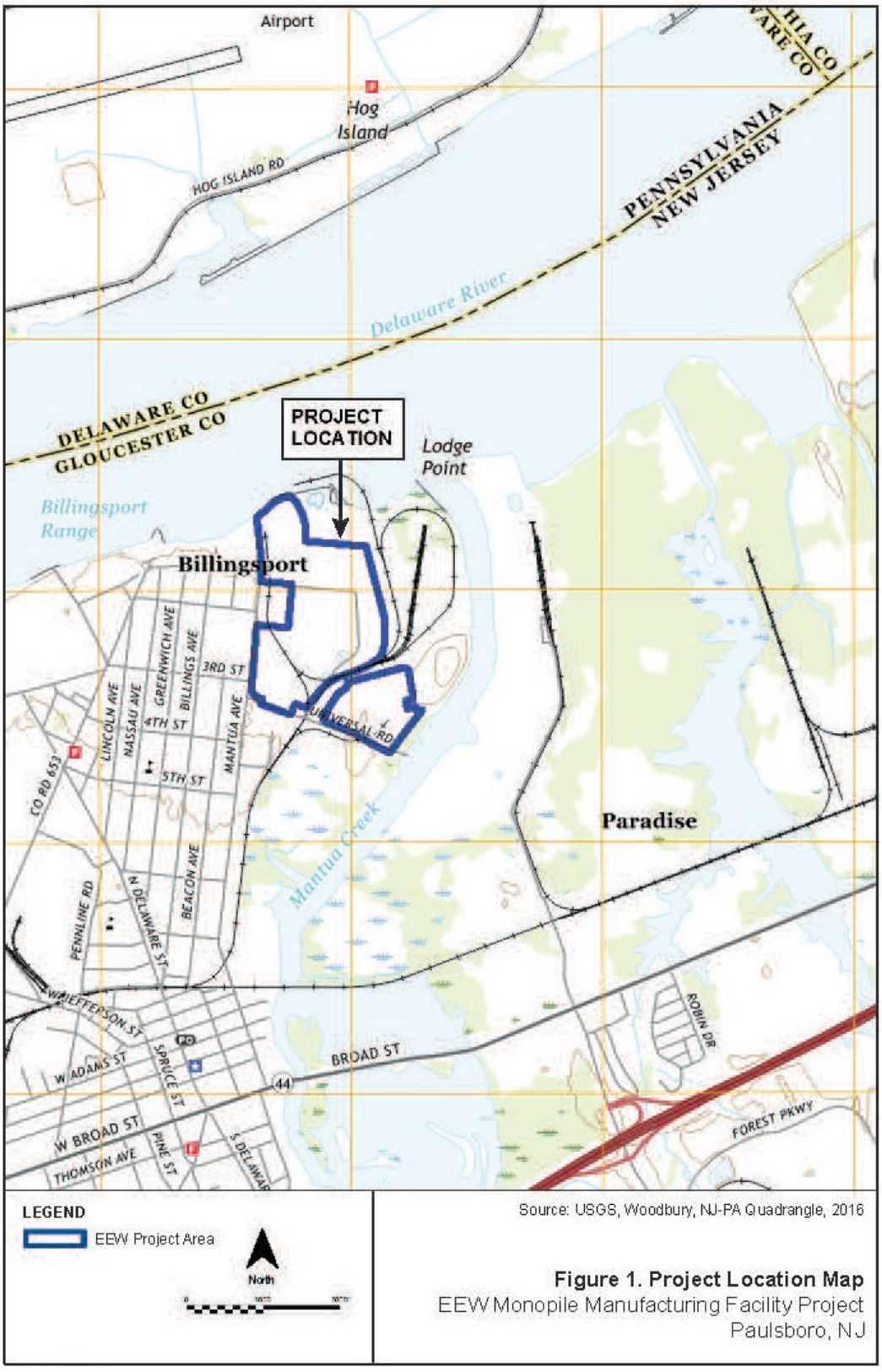
The purpose and need for agency action are to comply with DOE's mandate under the EPAct by selecting eligible projects that meet the goals of the act. The DOE Loan Programs Office (LPO) has determined that the EEW project (Project), as proposed by the Applicant, is eligible pursuant to EPAct Section 1703 and that it complies with DOE's mandate as defined in the act. DOE is using the National Environmental Policy Act (NEPA) process to assist in determining whether to issue a loan guarantee to the Applicant to support the Project.

The Applicant Is constructing a manufacturing facility to produce steel monopiles for offshore wind turbines at the Paulsboro Marine Terminal (PMT) in Paulsboro, New Jersey. Phase I of the Project commenced construction in February 2021; Phase II of the Project is anticipated to commence construction in 2023. The federal loan guarantee will support both phases. The Applicant's objective is to provide steel monopiles for Ørsted's proposed Ocean Wind One Project, with a design capacity to produce 1,100 megawatts (MW) of renewable electricity off the New Jersey coast. EEW expects to be the first producer of steel monopiles in the U.S. that serves the offshore wind industry. The Project will assist in the development of renewable wind energy, reducing emissions of GHGs that contribute to global climate change, as is consistent with the primary goal of the Title XVII program. DOE providing a federal loan guarantee to the Project will help bring offshore wind energy into greater use, thereby reducing overall national emissions of air pollutants and human-caused GHG emissions.

1.3 Background

The Applicant is EEW American Offshore Structures, a wholly owned subsidiary of EEW Group, collectively referred to as EEW. EEW is establishing the first manufacturing facility of steel monopiles for offshore wind turbines in the U.S. at a marine terminal facility in Paulsboro, New Jersey. Currently, steel monopiles for offshore wind projects must be imported into the U.S. The Project will allow the monopiles to be produced domestically, saving international shipping costs and transit time and employing American workers. The Project site is on an 84.2-acre lease (approximated throughout this document as 85 acres and referred to as a "lease") at the PMT, a 120-acre former industrial site that was redeveloped by the South Jersey Port Corporation (SJPC) to serve as a maritime terminal. The SJPC is the site owner. The site is operated by Holt Logistics through a lease agreement. EEW is a sub-tenant to Holt Logistics. The Project location is shown in **Figure 1**.

Figure 1: Project Location Map



The SJPC obtained state and federal permits and approvals for development of the PMT and completed extensive environmental and cultural resource evaluations during development of the PMT, including a 2009 New Jersey State Environmental Impact Statement (NJEIS) prepared pursuant to New Jersey Executive Order No. 215 (SJPC 2009). SJPC 2009 found that the PMT would be developed in a way that reduces or eliminates adverse environmental impacts, in accordance with the environmental conditions specified in its analysis and with the applicable permits and approvals. The information and findings contained in SJPC 2009 for the PMT development are incorporated by reference. EEW has also obtained state and federal permits and approvals for the Project, which commenced construction in 2021. Appendix A contains records of agency and tribal correspondence completed by DOE for this EA, and Appendix B provides a summary of previously completed permits and approvals and environmental and cultural resource studies for the PMT and a list of required permits and approvals for the EEA project.

1.3.1 Legacy Remedial Activities

The entire 85-acre Project site is on a former petroleum-storage and industrial site that has undergone extensive remediation of legacy contaminants by the responsible parties under the New Jersey Department of Environmental Protection (NJDEP) site-remediation program. The Project site consists of two non-contiguous parcels formerly used by British Petroleum (BP) for petroleum storage and by Paulsboro Packaging, Inc. (PPI), an industrial packaging manufacturer. The former BP parcel is referred to in this EA as Development Area 1 (DA 1), and the former PPI parcel is referred to as Development Area 2 (DA 2). A Figure showing the boundaries of brownfield site redevelopment and remedial activities is included in Appendix C. Active soil remediation on the BP parcel was completed in 2010; groundwater monitoring is ongoing through a network of 180 monitoring wells on and around the Project site. EEW is required to maintain access to any active groundwater monitoring wells and allow continued compliance with NJDEP's remediation requirements under the terms of its lease agreement to use the site.

On the PPI parcel (DA 2), the packaging plant operated until 2017. Remedial investigation, largely associated with an industry that predated PPI, has been ongoing at the 10-acre parcel since 1989. Interim actions, consisting of surficial capping of select areas and building demolition, have been completed. Most recently, soil remediation through excavation of five remaining areas on the EEW's lease was completed in October 2022. SJPC 2009 concluded that paving and building on the Project site would be an effective capping method, and EEW will accomplish this in their DA 2. EEW and the Gloucester County Improvement Authority (GCIA) are working collaboratively with the PPI Licensed Site Remediation Professional (LSRP) to protect and maintain access to the existing 28 groundwater monitoring wells on PPI parcel during development of the Project.

The Project would not conflict with any of the remedial activities because the Project has been approved and permitted through the New Jersey Waterfront Development Permit (WDP) process. All existing wells have been covered with concrete vaults to ensure they are not affected by Project construction and operations, which DOE observed on a March 2022 site visit. No adverse impacts associated with brownfield redevelopment and remedial actions are therefore anticipated from Project construction or operations. Continued compliance with all applicable environmental rules and regulations is required under the terms of EEW's lease agreement for the site. EEW sub-leases the site from the port operator, Holt Logistics, which in turn leases the site from the SJPC. Ongoing remedial activities are coordinated through the site owner and port operator. The lease also provides that BP and other responsible parties be allowed to continue their remedial activities. There are no foreseeable impacts from the Project on brownfield remediation in the future because site remediation activities have been completed and only long-term groundwater monitoring by BP continues.

1.4 Scope of Environmental Assessment

This Environmental Assessment (EA) presents information about the potential impacts associated with DOE guaranteeing a loan to the Applicant and covers the construction and operation of the Project. DOE has prepared this EA to comply with NEPA, Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500−1508), and DOE NEPA Implementing Procedures (10 CFR Part 1021). If no significant impacts are identified during preparation of this EA, DOE will issue a Finding of No Significant Impact (FONSI). If potentially significant impacts are identified, DOE will prepare an Environmental Impact Statement (EIS).

This EA covers Project-related activities conducted by the Applicant, starting at the time EEW accepted LPO's invitation to the LPO due diligence process in January 2022. EEW started Phase I construction of two buildings in DA 1 in February 2021 (one Paint and Blast building and one Circular Welding building), prior to commencement of the LPO due diligence process. However, this Phase I construction is ongoing, and the two buildings are integral to the Project manufacturing process. Therefore, this EA considers construction of the two Phase I buildings as well as the future Phase II construction in DA 1 and DA 2. This EA evaluates the full production capacity of the facility after both Phase I and II are completed (i.e., impacts of Phase I and Phase II are not considered separately) in order to fully evaluate the impacts of Project operation.

The Project site is a leased area within the larger PMT, which has already been subject to environmental review and permitting requirements prior to its establishment (see Appendix B). This EA evaluates impacts from construction and operation of the Project; it also evaluates cumulative impacts of the Project and other existing and foreseeable activities in the vicinity of the Project, including PMT operations.

This EA describes potential impacts on resource areas due to the construction and operation of the Project. The resource areas assessed include:

- Cultural resources, including Native American interests
- Water resources, including wetlands, groundwater, and surface water
- Air quality
- Noise
- Transportation
- Aesthetics and visual resources
- Biological resources, including threatened and endangered species
- Socioeconomics
- Health and safety
- Environmental justice
- Waste management
- Cumulative impacts

The following resource areas were identified as potentially being affected by the Project, and each was assessed to determine the significance of those impacts (see Section 3, *Affected Environment and Environmental Consequences*). The assessment combined desktop research and analysis of existing available information obtained from field studies, including site assessments related to the presence/absence of wetlands, water bodies, and cultural resources. Detailed environmental reviews conducted for the SJPC 2009 and 2010 Waterfront Development Permit (WDP) for the PMT were also reviewed by DOE.

SJPC 2009 provided detailed analysis of geology and soils in its assessment of PMT construction and operations, which included general plans for an industrial buildout of the entire terminal area, including EEW's 85-acre lease. SJPC 2009 concluded that soils would be temporarily affected by construction but that impacts on soils would not be significant because a Soil Erosion and Sediment Control Plan (SESCP) certified by the Gloucester County Soil Conservation District (GCSCD) would be in place. EEW is currently implementing a certified SESCP for Phase I construction activities and will also do so for Phase II construction activities (EEW 2022a). SJPC 2009 also found there would be no impacts on geology from development of the PMT. Based on the review and findings of SJPC 2009 and its relevance and applicability to the current Project, as well as permits and authorizations that have been issued for the current Project, impacts on geology and soils would not be significant and therefore are not included in the scope of this EA.

DOE LPO representatives visited the site in March 2022 and performed a detailed walkthrough of the two buildings then under construction, areas planned for construction, and other site elements, including the groundwater monitoring wells and stormwater drainage system.

2.0 DESCRIPTION OF THE PROJECT

2.1 Overview

EEW is constructing six manufacturing buildings (about 517,400 square feet) and ancillary facilities, including yard and storage areas, on 85 acres of land leased from the SJPC within the PMT in Paulsboro, Gloucester County, New Jersey (**Figure 1**)**.** The Project site is currently owned by the SJPC and bordered to the north by the Delaware River, with Mantua Creek to the east, the Village of Billingsport to the west, and undeveloped areas, including wetlands areas, to the south. The Project site consists of an active, graded construction site within the PMT where the SJPC has spent more than 10 years redeveloping the former petroleum storage and industrial site into a marine terminal. EEW secured an 85-acre lease from the SJPC with a 50-year term to conduct their operations at the Project site. The scope of the Project that would be subject to LPO's federal loan guarantee is construction and operation of a steel monopile manufacturing facility.

The Project site consists of two non-contiguous parcels that are identified as DA 1, approximately 62 acres of the Project Site, and DA 2, approximately 23 acres in the southeastern portion of the Project site. DA 1 is on the former BP property, and DA 2 is on the former PPI property. The locations and boundaries of the development areas are shown in **Figure 2**.

The six manufacturing buildings are referred to in this EA according to their construction sequence. "Phase I" refers to the two buildings that are being constructed first to receive prefabricated monopile sections from Germany that will be welded together into complete monopiles. "Phase II" refers to the remaining four buildings to be constructed in 2023-2025 that will allow monopiles to be fabricated from flat steel that will be delivered to the Project site. Phase I and Phase II of the Project will have a total of 517,400 square feet of indoor industrial space, along with 41 acres of impervious asphalt pavement for parking and transportation needs within the Project site.

The buildings to be constructed are as follows:

Phase I

1. Circular Welding Building
2. Paint and Blast Building #1

Phase II

1. Plate Welding Building
2. Roll Bending Building
3. Segment Welding Building
4. Paint and Blast Building #2

Each building will perform a specific function in the assembly process for the steel monopiles, which will be moved by specialized industrial transport vehicles between each building on the site. The buildings and their functions are described in further detail below.

Figure 2: Existing Conditions

2.2 Construction and Operation

2.2.1 Construction

In February 2021, EEW began construction of the manufacturing facility in DA 1 and completed it in December 2022. Phase I development activities included construction of 142,000 square feet (3.3 acres) of industrial space within two buildings, the Circular Welding Building and Paint and Blast Building #1.

The Circular Welding Building structure has been erected, with yard improvements, utility installations (i.e., potable water lines, fire protection systems, sanitary wastewater pump stations and sewers, electrical feeds and equipment, communications lines), and ongoing building fit-out and equipment commissioning completed. Operations started in January 2023.

As of April 2023, Paint and Blast Building #1 structure had been erected and was in the process of being commissioned, with water and sewer utilities being installed. The start of operation is anticipated in Q3 2023.

Construction of Phase II may overlap with the completion of construction for Phase I and occur simultaneously with Phase I monopile fabrication (see **Table 1**). At the completion of Phase II construction, the EEW facility will perform all operations needed to transform steel plate into completed monopiles. The development of Phase II will add an additional 373,000 square feet (8.56 acres) of indoor industrial space.

The Project, including Phase I and Phase II, will create impervious surfaces, including pavement and buildings, estimated as follows:

- Buildings: 517,400 square feet (11.9 acres)
- Impervious Pavement: 1,789,000 square feet (41.1 acres)
- Total Impervious Area: 2,306,400 square feet (53 acres)

The remaining 1,363,000 square feet (31.3 acres) of the 85-acre leased area will be surfaced with permeable pavement (open-graded stone), with some additional landscaping in select fringe areas.

Figure 2 illustrates the development areas associated with the construction and manufacturing schedule (**Table 1**). The Project site plan with building locations, asphalt surfacing, and truck access route, is shown in **Figure 3**.

A New Jersey certified SESCP and construction stormwater management plan are being implemented during Phase I and will be implemented during all Phase II construction activities. Construction activities include final grading, subgrade preparation, paving, installation of stormwater collection, conveyance and treatment infrastructure, and installation of electrical substation equipment and utilities (i.e., potable water lines, fire protection systems, sanitary wastewater pump stations and sewers, electrical feeds and equipment, communications lines). The existing stormwater management system and utility infrastructure on the Project site is being incorporated into the stormwater management system and utility system for Project operation.

Table 1: Construction and Operation Schedule

	Construction Schedule		
	Start	End	Start of Operation
Buildings			
Phase I			
Circular Welding Building	February 2021	October 2022	January 2023
Paint and Blast Building #1	May 2021	December 2022	Equipment commissioning expected completion August 2023
Phase II			
Paint and Blast Building #2	September 2023	October 2025	March 2026
Plate Welding Building	September 2023	September 2025	March 2026
Roll Bending Building	September 2023	December 2025	March 2026
Segment Welding Building	September 2023	October 2025	March 2026
Site Improvements and Staging Area Preparation, includes Utilities, Grading, and Pavement			
Development Area 1[a]	October 2021	December 2023	December 2023
Development Area 2[b]	September 2023	June 2024	March 2026

[a] *Includes areas associated with Phases I and II of development.*
[b] *Includes areas associated with Phase II of development.*
Source: Hess, Jeremy, 2023. Manufacturing Engineering Manager, EEW American Offshore Structures July 20, 2023—email communication.

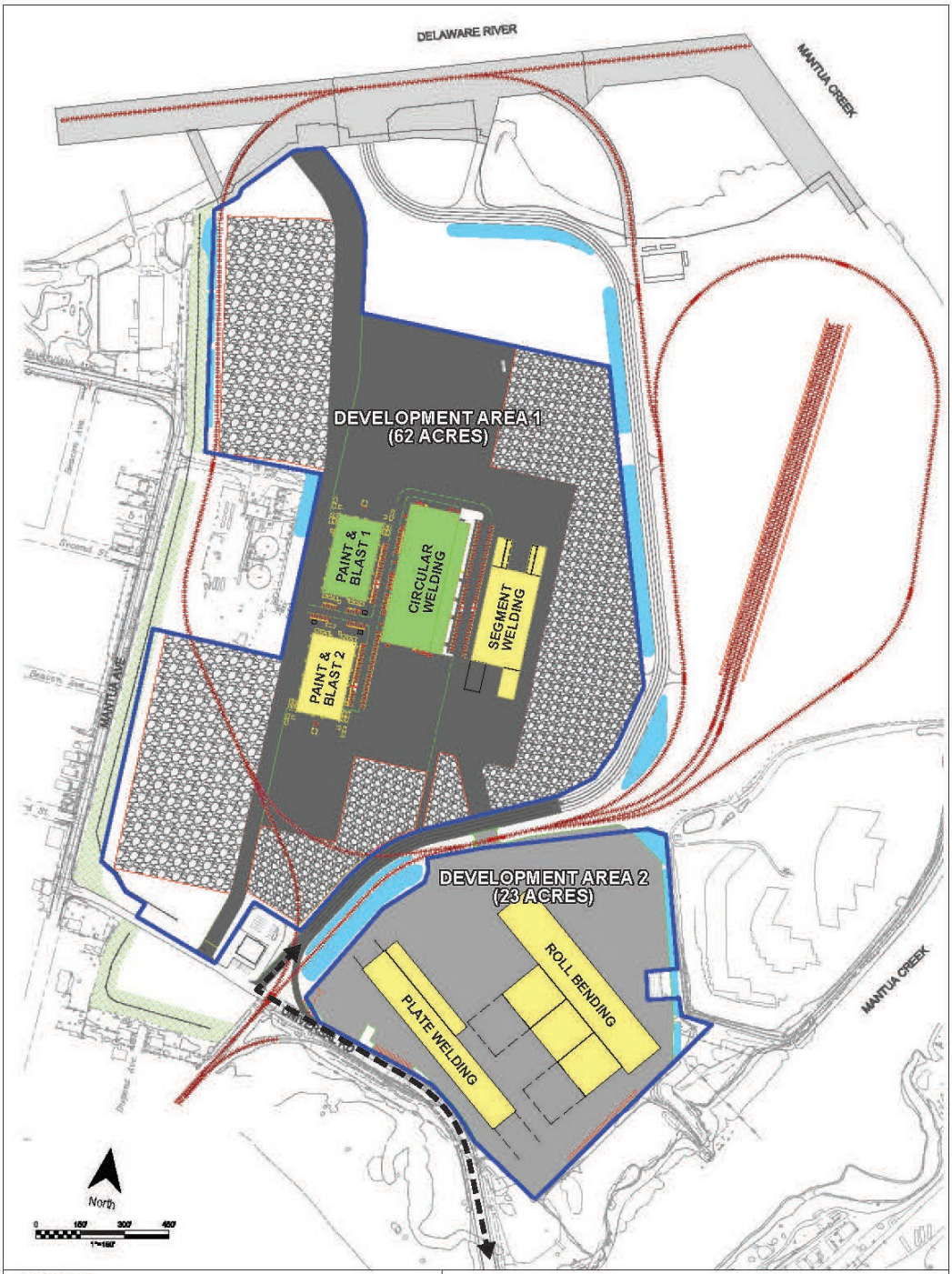


Figure 3 Proposed Site Plan
EEW Monopile Manufacturing Facility Project
Paulsboro, NJ

PPS052422 1018PHL

2.2.2 Operations

The SJPC, which is a corporation created by the State of New Jersey, has invested more than $250 million into developing the PMT in support of marine-dependent manufacturing, including offshore wind activities. Substantial site improvements, including mass grading, raising the grades of the PMT site above flood elevations, constructing the main utility distribution infrastructure through the terminal, and constructing a deep-water wharf, were completed independently of and prior to the EEW project and were not loan-guaranteed or otherwise funded by DOE. The SJPC also built a dedicated commercial access road and heavy wharf with berths for maritime access. The heavy wharf will be used by the Project for delivery of materials (monopile segments and flat steel) and shipment of completed monopiles to offshore construction locations. As part of the PMT development, the SJPC built a 10-foot-high barrier on top of a 6-foot-high earthen berm along the western edge of the PMT property to physically and visually separate the PMT property from the residential area of Billingsport to the west. The barrier was constructed as a mitigation measure under the provisions of SJPC 2009 using New Jersey Department of Transportation (NJDOT) highway standards for traffic noise mitigation (NJDOT 2015).

2.2.2.1 Operational Phases

EEW will implement manufacturing in two phases. During the first phase (Phase I), the Circular Welding Building and one of the Paint and Blast Buildings (#1) are being commissioned and put into operation, allowing manufacturing as described in Manufacturing Process Overview Steps 5 and 6, below. The Circular Welding Building commenced operation in January 2023, and the Paint and Blast Building 1 is scheduled in commence operation in Q3 2023. During Phase I operation, Manufacturing Process Overview Steps 1 through 4, below, will be completed at EEW's existing facility in Rostock, Germany. Completed monopile segments will be delivered to the Paulsboro facility by marine vessel to the heavy wharf at the PMT. The segments will be transported to and from the heavy wharf to the Project area using diesel-powered self-propelled mobile tractors (SPMTs). The segments will be used to manufacture finished monopiles, which will be stored until required for offshore wind turbine construction, at which point they will be transferred to marine vessels at the PMT heavy wharf for subsequent transport to the offshore wind project construction site.

Phase II will include the addition of rolling, bending, welding capabilities and the expansion of painting and blasting capabilities, allowing monopiles to be fabricated entirely on the Project site (Manufacturing Process Overview Steps 1 through 7, as described below). Under Phase II, two additional structures will be constructed in DA 1 (Plate Welding Building and Roll Bending Building) and two structures in DA 2 (Segment Welding Building and Paint and Blast Building #2). In both phases, the remaining Project site acreage will be used for material laydown, staging, and temporary storage of finished monopiles.

Manufacturing Process Overview

The six manufacturing buildings are shown in **Figure 3.** The monopile manufacturing process (after completion of Phase II construction) will be as follows:

1. Flat steel plate, approximately 4 meters wide (13.1 feet) by 18 meters long (59.1 feet) and up to 100 millimeters thick (3.94 inches), will be received by marine vessel and offloaded at the PMT heavy wharf.
2. Flat plate will be transported from the heavy wharf to the Plate Welding Building. Plate will be welded and/or cut to the shape required for a monopile segment, approximately 4 meters wide (13.1 feet) by 38 meters long (124.6 feet).
3. Dimensioned flat plate from the Plate Welding Building will be taken into the Roll-Bending Building to be rolled into circular pile segments, approximately 4 meters (13.1 feet) in length and up to 12 meters (39.4 feet) in diameter.

4. Pile segments will be transported from the Roll-Bending Building to the Segment Welding Building where several segments will be joined to form pile sections of up to approximately 30 meters in length (98.4 feet).
5. Pile sections will be transported from the Segment Welding Building to the Circular Welding Building where they will be joined to form a full monopile of up to 120 meters in length (393.7 feet).
6. Full monopiles will be transported to either of the two Paint and Blast Buildings for surface preparation and coating, completing the monopile.
7. Completed monopiles will be staged on-site until required for marine construction of offshore wind turbines. At that time, they will be transported to the heavy wharf for loading onto vessels for transport to the offshore construction sites.

Materials

Materials for Phase I of the Project and for combined Phase I and Phase II of the Project are shown in **Table 2**, including flows of raw materials, products (finished monopiles), recyclables, and wastes.

Table 2: Raw Materials, Products, and Recyclables/Wastes of Manufacturing Process

	Transport Method	Quantity per Year	Unit of Measurement
Phase I			
Raw Materials			
Monopile Sections	Vessel	150	units
Paint	Truck	27,200	gallons
Welding Wire	Truck	30,500	kilograms
Flux	Truck	39,650	kilograms
Products			
Finished Monopiles	Vessel	50	units
Recyclables/Wastes			
Scrap Metal	Dumpster/Truck	200	tons
Waste Oils	Tote/Truck	850	gallons
Phase II			
Raw Materials			
Flat Steel	Vessel	150,850	tons
Paint	Truck	54,400	gallons
Welding Wire	Truck	1,048,657	kilograms
Flux	Truck	1,363,255	kilograms
Products			
Finished Monopiles	Vessel	100	units
Recyclables/Wastes			
Scrap Metal	Dumpster/Truck	850	tons
Waste Oils	Tote/Truck	5,700	gallons

Source: Jacobs Engineering 2022

For Phase I operations, raw materials for production of the finished monopiles will include monopile segments, paints, welding wires, and flux (a powder additive used in the welding process). For Phase II operation, raw materials for the finished monopiles will include flat steel as well as paints, welding wires, and flux. The quantities of inputs and outputs will increase from Phase I to Phase II as the production capacity ramps up to the goal of 100 monopiles fabricated on-site from flat steel per year. Phase II will include fabrication of the monopiles from flat steel compared to the welding of pre-fabricated monopile segments together in Phase I. Therefore, the inputs and outputs will greatly increase in Phase II due to the additional welding, roll-bending, and paint-blast work required.

Water and Utilities

The potable/sanitary water needs of the facility have been estimated assuming a water demand of 50 gallons per employee per day. During Phase I start-up operations, the facility is anticipated to employ up to 151 workers, increasing to 537 workers during Phase II. The average daily potable/sanitary water demand is projected to be 3,775 gallons per day (gpd) during Phase I and up to 13,425 gpd during Phase II. Daily process water requirements for the facility are estimated at 2,000 gpd and non-contact cooling water requirements at 1,037 gpd. Potable water, cooling water, and process water will be provided by the Borough of Paulsboro Water-Sewer Department and the Gloucester County Utilities Authority (GCUA). Process water will be used for backflushing the filters used to initially clean piles or plates upon delivery; therefore, the process wastewater generated from this process may contain slightly elevated concentrations of sodium from ocean transport of the piles/plates. Process wastewater will be cleaned through a pre-treatment process established as part of the Sanitary Sewer Connection Permit issued by GCUA on February 3, 2022. Sanitary wastewater will be treated and disposed of in the existing wastewater treatment system managed by the GCUA. Electricity and natural gas will be delivered through existing power and gas lines by GCUA to EEW's newly constructed buildings.

Production Capacity

The full production capacity will be 100 finished monopiles per year, based on a 1,500-ton average monopile weight and 150,000-tons-per-year design capacity (Hess 2022). During Phase I operation, the facility production capacity will be 50 finished monopiles per year, increasing to 100 finished monopiles per year at full Phase II operation. Actual production of finished monopiles during Phase I and Phase II operation will depend upon customer demand for monopiles from the facility.

3.0 ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

In each of the following sections, specific resources are addressed with qualitative and, where applicable, quantitative information to concisely describe the nature and characteristics of the resource that the Project may affect, as well as the potential direct and indirect impacts on that resource from the Project, given Project controls. A conclusion regarding the significance of impacts is provided for each resource area. A separate section evaluates the potential cumulative effects of the Project and existing and foreseeable activities in the vicinity of the Project site.

3.2 Environmental Setting

The Project site is part of the PMT complex, bordered by the Delaware River to the north (River Mile 90) and Mantua Creek to the east. The site is in the Borough of Paulsboro, Gloucester County, New Jersey, directly across the river from the Philadelphia International Airport. The Project site is in the Coastal Plain physiographic province. The topography of the Project site is generally level (NJDEP 2022a).

The Project site is bounded by residential neighborhoods to the west, by wetlands to the south, and by current or historical industrial activities to the south and east. Historical industrial activities include a former BP oil terminal and PPI site within and adjacent to the terminal. Nearby current industrial activities include the GCUA wastewater treatment plant, West Deptford Power Station, and a petroleum refinery operated by PBF Energy.

3.3 Cultural Resources

3.3.1 General Setting

The 85-acre Project site is within the larger SJPC PMT site (120 acres), which was previously evaluated for cultural resources in SJPC 2009. Most buildings and industrial facilities at the marine terminal site were constructed between 1931 and 1970 when the site included operation of a BP oil terminal and other industrial properties including, PPI. Most of those structures were demolished and removed by 2009. At the time of the 2009 NJEIS, only one service building and three former warehouses and/or maintenance buildings remained from the original industrial facilities (SJPC 2009), and these buildings were all demolished by 2020. The Area of Potential Effect (APE) for cultural resources for this EA is the 85-acre Project site and off-site areas within 0.25 mile of the Project site boundaries.

3.3.2 Cultural Resource Surveys

The archaeological APE consists of the 85-acre lease boundary. New Jersey State Historic Preservation Office (NJSHPO) and New Jersey State Museum (NJSM) files were reviewed for SJPC 2009 to determine what cultural resources may have existed prior to 20th-century industrial development. One site, NJSM No. 28-GI-23, may have existed in DA 1 prior to industrial development, but SJPC 2009 concluded that any archeological resources would have been destroyed by the site's heavy industrial usage since 1929. DOE reviewed the 2009 NJEIS findings and the supporting documentation cited in the NJEIS (SJPC 2009). DOE concurs with the findings from SJPC 2009 that no cultural resources would be adversely affected by the EEW Project. Given the extensive disturbance by 20th-century development, any archaeological resources that might have existed are unlikely to possess integrity of association or location required for National Register of Historic Places (NRHP) listing.

The architectural APE is the 85-acre lease boundary, with an addition 0.25-mile buffer around that boundary. SJPC 2009 identified four NRHP-listed historic properties in proximity to the PMT site. Three of these resources (the First National Bank and Trust Building, Fort Billings Park, and the Municipal Building on Broad Street) are more than 1,000 feet from the Project site and are not in visual range. The First National Bank and Trust Building was demolished in 1996. The other two buildings would not be affected by the Project. The fourth historic property, the Tinicum Island Range Rear Light Station (1211 Delaware Street) is approximately 400 feet west of the Project site and within the visual range of the Project site. The 85-foot-high light station, constructed in 1880 and still in use, has an active visible range of 8.5 nautical miles (9.8 miles) and was added to the NRHP in 2005. However, SJPC 2009 does not list the Tinicum Island Range Rear Light Station as a potential cultural resources impact concern for development of the PMT because it was listed on the NRHP, despite its proximity to then-extant oil tanks associated with the former BP oil terminal, and because it would not be negatively affected by any future development within the PMT (SJPC 2009:128).

The maximum anticipated height of Project facilities is approximately 110 feet. The NJSHPO has identified 35 historic architectural resources within 0.25 mile of the Project site; all are along Mantua and Dupont Avenues in Billingsport, southwest of the Project Site (NJDEP 2022b). However, none of these structures have been determined to be eligible for the NRHP, and none occur within 150 feet of the Project site boundary (NJDEP 2022b).

3.3.3 Native American Interests

Native American sites have been documented in Gloucester County between the Delaware River and Interstate 295 (Hunter Research 2005). The distribution of the sites follows the Delaware River and its principal drainages, including Mantua Creek (Hunter Research 2005). SJPC 2009 used data from the NJSM archives to identify 12 archeological sites within 1 mile of the PMT. Archaeological Site NJSM No. 28-GI-23 is in Project site DA 1. However, this archeological site was most likely destroyed, considering previous disturbance, as discussed in Section 3.3.2. Since the 2009 NJEIS was completed, additional fill has been placed on the site, bringing the total depth of fill and dredged material to roughly 30 feet. The other 11 archeological sites identified in SJPC 2009 would not be affected by Project construction because they are not within the construction area. DOE identified four federally recognized Native American tribes (Absentee Shawnee Tribe of Indians of Oklahoma, Delaware Nation of Oklahoma, Delaware Tribe of Indians, and Shawnee Tribe) that may have an interest in the Project area. These tribes were identified as having an interest in the Project area, using the U.S. Department of Housing and Urban Development's Tribal Directory Assessment Tool (U.S. Department of Housing and Urban Development. 2023). These Tribes identified an additional Tribe, the Stockbridge-Munsee Community, who as a result were included in coordination efforts.

3.3.4 Conclusions

The potential for intact, *in situ* cultural materials associated within Archaeological Site NJSM No. 28-GI-23 is low, given previous disturbance, the addition of fill, and the relatively shallow depth of Project construction (4 to 5 feet). However, an unanticipated discovery plan has been implemented for the area shown in **Figure 4** to provide instructions for construction crews to follow if pre-Contact materials, such as human remains, lithics (stone tools), pottery, or fire-cracked rock, are discovered during Project construction. If such materials are identified during construction, then work would stop in the vicinity of the discovery, and the Office of the State Archaeologist would be notified. A qualified archaeologist or a designated representative of the State Archaeologist or State Historical Center would evaluate any discovery and, in consultation with NJSHPO, implement the appropriate measures before construction activities resume. As of July 2023, all significant intrusive work in this area is completed and no artifacts identified in the UDP were encountered.

Figure 4: Unanticipated Discovery Plan Area

DOE completed cultural resource and Native American interest assessments pursuant to Section 106 of the National Historic Preservation Act (NHPA). DOE initiated consultation with NJSHPO on March 2, 2022. NJSHPO concurred with DOE's finding in a March 29, 2022, letter, stating that there are no historic properties within the APE and no further Section 106 consultation is required (Appendix A). DOE sent a request on March 2, 2022, to the four tribes identified in Section 3.3.3, inviting them to consult on the Project. Correspondence with the tribes is attached in Appendix A. DOE asked for information about nearby cultural resources and any comments or concerns the tribes had on the potential for those resources to be affected by construction of the facility at the Project site. On March 17, 2022, the Delaware Nation was the only tribe to accept DOE's request for consultation under NHPA Section 106 (Appendix A). DOE sent a Section 106 consultation package, including all relevant Project information, to the Delaware Nation Historic Preservation Office on April 25, 2022. The Delaware Nation concurred with DOE's determination that there would be no adverse effects on any cultural or religious sites on April 25, 2022 (see Appendix A). The Delaware Nation, Delaware Tribe, and Stockbridge-Munsee Community requested government to government consultation on April 28, 2023 in response to the Draft EA. Government to government consultation meetings were requested of all three Tribes, and LPO hosted a virtual meeting in May 2023. DOE provided details on how this Project fits into the development of offshore wind and further comments were received specific to the project.

Due to the absence of historic properties and disturbed nature of the Project site, as well as the controls in place in the event of an unanticipated discovery of cultural resource materials, impacts on cultural resources, including Native American interests, would not be significant. The NJSHPO and the Delaware Nation tribe (see Appendix A) concurred that the Project would have no adverse impacts on cultural resources. The Project is not expected to induce new growth or development, and any additional work in or around the Project site would require new or modified permits and additional evaluation. Therefore, the Project would not indirectly adversely affect any archeological resources.

3.4 Water Resources

3.4.1 General Setting

The nearest mapped water bodies to the Project site are the Delaware River and Mantua Creek, immediately north and east of the Project site, respectively. The Project site is within the U.S. Geological Survey (USGS) Lower Delaware River Region, Hydrologic Unit Code 02040202140010, according to the USGS (2022). The northern boundary of DA 1 borders the PMT wharf on the Delaware River, and the southeastern boundary of DA 2 borders undeveloped areas adjacent to Mantua Creek. Other than the existing stormwater-collection swales, there are no water bodies within the boundaries of the Project site, as indicated by the National Hydrography Dataset and confirmed by surveys conducted for SJPC 2009. Representatives from the New Jersey Division of Land Use Regulation (DLUR) and U.S. Army Corps of Engineers (USACE) Philadelphia District identified wetlands in studies conducted for SJPC 2009, during fieldwork conducted in 2008 and 2009 (SJPC 2009, pp. 78–81). An examination of the delineated wetlands from that analysis reveals that no wetlands are located within the Project lease area.

3.4.2 Surface Water and Groundwater Quantities

The Project would obtain its potable, cooling, and process makeup water from the Paulsboro Water-Sewer Department and GCUA, which have adequate capacity to serve the Project's anticipated potable and process water needs. The estimated quantity of potable, process, and cooling water is listed in Section 2.2.2 of this EA. The Project would not use groundwater for construction or operation.

Process water requirements for Project operation are related to cleaning the monopiles prior to coating. The monopiles would be thoroughly cleaned to remove salt spray deposits and any accumulated surface rust or other deposits prior to coating. Monopile cleaning operations would be performed with high-

pressure spray-wash systems. This approach eliminates the need for detergent or chemical-cleaning operations. Monopile cleaning would be performed at typical water distribution system temperatures so that heated water or steam cleaning would not be required.

3.4.3 Surface Water and Groundwater Quality

3.4.3.1 Project Construction

Project construction is being performed under terms required by a New Jersey Pollutant Discharge Elimination System (NJPDES) permit for construction stormwater discharge and the SESCP approved by NJDEP and certified by the GCSCD for Phase I (see Permitting Table in Appendix B). The SESCP for Phase II is included in the modified Waterfront Development Permit, which was approved on January 20, 2023 by NJDEP. Controls included in the WDP terms and conditions to minimize impacts include installation of a silt fence around the overall perimeter of the area that would be disturbed by Project construction and localized control measures, including for specific areas of large disturbances or stockpiles. The Project design would include the use of permeable pavement and maintenance of the existing stormwater swales to minimize changes in stormwater infiltration on the Project site, as shown in **Figure 3**.

There were no significant impervious surface areas in the 85-acre Project site prior to construction of Phase I because the site was a graded construction zone with existing drainage swales to collect stormwater prior to discharge to the Delaware River. With the exception of the Phase I buildings that were under construction during the March 2022 DOE site visit, these site characteristics were confirmed by DOE representatives.

Under conditions of the NJDEP WDP (NJDEP 2010) for PMT construction, the initial surface runoff (first flush) of pollutants in stormwater moving over pavement in the Phase I construction area is subject to treatment requirements. For the Phase II construction, all surfaces upon which motor vehicles operate would be subject to treatment of the first flush of pollutants in stormwater, in accordance with New Jersey Administrative Code (N.J.A.C.) 7.8, *Stormwater Management* (March 2, 2020). In both cases, this requirement applies to runoff from storms with at least 1.25 inches of rainfall over 2 hours. Treatment for Phase I and Phase II Project construction is accomplished through application of green infrastructure and/or application of manufactured treatment device best management practices (BMPs). NJDEP preapproved all BMPs included in the design in their issuance of the Waterfront Development Permit for the Project. The design elements that EEW has included to comply with NJDEP standards are the following:

- Standard Bioretention System – DA 1
- Manufactured Treatment Device – DA 1
- Small-scale Bioretention Systems – DA 2

The manufactured treatment device is a StormFilter, which is designed to reduce concentrations of total suspended solids (TSS) prior to discharge. In combination with the bioretention systems, they are expected to remove 80 percent of TSS from stormwater. The bioretention systems would connect to the existing local storm sewer system and discharge treated water to Mantua Creek (from a portion of DA 2) or the Delaware River (from DA 1 and a portion of DA 2).

3.4.3.2 Project Operation

Process wastewater would be discharged to the Project site sewer system, which connects to the municipal wastewater treatment plant (WWTP) operated by GCUA. The discharge of process wastewater to the WWTP would be subject to pre-treatment standards required by GCUA. An industrial wastewater pre-treatment permit has been issued by the GCUA for Project-related industrial wastewater discharges (permit issued February 3, 2022).

Stormwater discharges from operation of the PMT are permitted under the existing WDPs, which accommodate stormwater that would be generated from Project operations in both Phase I and II. The Project would follow treatment standards established for stormwater discharges (N.J.A.C. 7:8-5.5).

During operations, EEW would manage all hazardous substances and hazardous wastes in accordance with applicable standards to protect surface water and groundwater from spills and releases. The project does not meet the requirements in N.J.A.C. 7:1E et seq. triggering the need for a Discharge Prevention Containment and Countermeasure plans (N.J.A.C. 7:1E *et seq*., *Discharges of Petroleum and Other Hazardous Substances Rules*). However, EEW has prepared an emergency response plan that outlines specific steps to be taken in the event of accidental release. The plan addresses spill prevention and response measures (EEW 2022b).

Impacts on groundwater or surface water from Project stormwater and wastewater discharges would not be significant. Potential impacts from stormwater discharges would be minimized, given the current elevation of the site, which is higher than the historic floodplain, and the current stormwater control and treatment procedures during construction and operation. Potential impacts from spills would be minimized through procedures for the control of on-site hazardous liquids. Impacts on groundwater or surface water from Project wastewater discharges would not be significant. Wastewater discharges from Project operations would be treated in a wastewater treatment system and subject to pre-treatment standards prior to discharge to the WWTP. The Project would not drive any land use or development changes elsewhere on the PMT or surrounding parcels, which are already being used for either industrial or residential buildings. Therefore, potential indirect effects on the Project on surface water and groundwater would not be significant.

3.4.4 Wetlands and Floodplains

3.4.4.1 Wetlands

No wetlands were identified within the 85-acre Project site in the 2009 NJEIS (SJPC 2009, pp. 78–81). An examination of the delineated wetlands from that analysis reveals that no wetlands are located within the 85-acre Project site. A small area of upland buffer area associated with off-site wetlands is in the southeastern portion of the 85-acre lease area within DA 2 (**Figure 5**).

The New Jersey Freshwater Wetland Protection Act rules require establishment of upland buffer areas, also known as *transition areas*, to minimize impacts on wetlands. The upland buffer areas that would be affected are currently graded and developed with some ruderal species (i.e., weeds) growing over the fence line. A NJDEP DLUR WDP (NJDEP Permit #0800-20-0002.1, LUP200001, March 17, 2021) covers the 62-acre DA 1. This WDP was modified to incorporate changes to stormwater-management utilities and update current flood hazard areas to reflect existing conditions covered by the previous DLUR WDP. A modified WDP and transition area waiver application was submitted to NJDEP for the southeastern 23-acre area (DA 2) in July 2022, and was approved on January 20, 2023 (**Figure 5**). The transition area waiver was requested to allow Project construction to occur in a portion of the buffer area adjacent to the off-site wetlands.

To minimize off-site erosion, sedimentation, and potential impacts on upland buffer areas, EEW has developed a SESCP, which is required under the terms of the existing WDP. Controls that would be implemented for construction within the buffer area include installing a silt fence around the perimeter of the area that would be disturbed by Project construction and implementation of local controls for specific areas of large disturbances or stockpiles, as specified in the SESCP.

Figure 5: Wetland Buffer (Transition Area)

3.4.4.2 Floodplains

Executive Order 11988, *Floodplain Management*, and DOE regulation 10 CFR 1022, *Compliance with Floodplain and Wetland Environmental Review Requirements*, dictate that DOE must evaluate the effects of its actions on floodplains and flood hazards.

In 2016, the Federal Emergency Management Agency (FEMA) mapped the northern and eastern edges of the Project area as Zone AE, with a 1 percent annual chance of flooding (i.e., 100-year flood) and a Base Flood Elevation (BFE) of 9 feet North American Vertical Datum 1988 (FEMA Flood Insurance Rate Maps [FIRMs] 34015C0076F and 34015C0078F, August 17, 2016). In the 2016 maps, the center portion of DA 1 on the Project site was mapped as a moderate flood hazard area, between the limits of the base flood and the 0.2-percent-annual-chance (i.e., 500-year) flood. The remaining area was mapped as minimal flood hazard (Zone X). Zone VE, the area subject to wave action from the Delaware River has a BFE of 11 feet. Mapped Zone VE areas are outside the boundaries of the Project site. Since the 2016 FIRM mapping, ground-surface elevations within the 62 acre DA 1 were raised above the BFE to 11 feet, consistent with NJDEP permits issued on October 15, 2010. Elevations in DA 1 now range from 11 to 15 feet. Elevations in the 23-acre DA 2 range from 13 to 20 feet. A request for a Letter of Map Revision (LOMR) was presented to the Borough of Paulsboro for review, then submitted to FEMA on May 5, 2022. FEMA had not provided a response as of April 2023. The presence of flood hazard areas was evaluated in both DA 1 and DA 2 pursuant to N.J.A.C. 7:13 Flood Hazard Area Control Act rules to determine the boundaries of regulated flood hazard areas bordering the nearby waterways. NJDEP verified, pursuant N.J.A.C 7:13-5 the boundaries of flood hazard areas regulated by the state on March 17, 2021 for DA 1, and November 3, 2022 for DA 2. The verified plans show Phase I and II construction activities occurring outside of the state-regulated flood hazard areas. Although the FIRMs show portions of the Project site as being in floodplains, the modified surface elevations are now higher than the mapped floodplain elevations. Therefore, consistent with 10 CFR 1022.11, DOE determined that no floodplains would be affected by the Project.

Impacts from Project construction on NJDEP-regulated upland buffer areas have been minimized through Project layout design and application of construction management plans. Planned Phase II construction activities would affect approximately 3.4 acres of upland buffer areas. There are no wetland impacts from construction because there are no wetlands on the site, and upland buffer area impacts would be minimized and subject to WDP permit conditions. No floodplains or off-site wetlands areas would be affected by Project construction, and impacts on off-site wetlands and impacts on floodplains from Project construction would not be significant. Any expansion of EEW's building footprint in the future would occur within their 85-acre lease area, and therefore would not have an impact on off-site wetland resources. In addition, as described in Section 3.3.2, *Groundwater and Surface Water*, stormwater from Project construction and Project operation would be managed to minimize water quality and water quantity impacts on off-site wetlands, limiting the potential for indirect impacts on off-site wetlands.

3.5 Air Quality

3.5.1 Geographic and Regulatory Setting

3.5.1.1 Geographic Setting

National Ambient Air Quality Standards (NAAQS) are the allowable concentrations and exposure limits for criteria pollutants set by the U.S. Environmental Protection Agency (EPA). Criteria pollutants include carbon monoxide (CO), nitrogen oxides (NO_X), ozone (O_3), particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), sulfur oxides (SO_X), and lead. New Jersey Ambient Air Quality Standards are the same as the NAAQS for criteria air pollutants. On June 4, 2018, the EPA designated the entire state of New Jersey as a

nonattainment area for the 0.07-part-per-million (ppm) 8-hour ozone NAAQS. The nonattainment areas for the 0.07 ppm standard are the same as those designated for the 0.08 ppm and 0.075 ppm standards.

Gloucester County, including Paulsboro, is classified as a marginal nonattainment area for ozone under both the NAAQS 2008 8-hour O_3 standard and the 2015 8-hour O_3 standard (NJDEP 2022c). Gloucester County is designated unclassifiable or classified as an attainment area for all other criteria air pollutants, except for $PM_{2.5}$, for which it is listed as a maintenance area for the 2006 $PM_{2.5}$ NAAQS. The EPA thresholds for classification of air emission sources in marginal nonattainment areas are 100 tons per year (tpy) Potential to Emit (PTE) for a new major source and 40 tpy PTE for major modification of an existing air emissions source.

The closest ambient air quality monitoring station (O_3 ambient air quality data) to the Project site is in Clarksboro, NJ, approximately 3.5 miles southeast of the Project site. The Clarksboro monitoring station is operated only during the O_3 monitoring season, from March 1 through October 31 annually. According to the EPA's Air Quality Statistics Support Tool, in Gloucester County from 2017–2022, there were exceedances of the 8 hour O_3 standard in 2017 (0.073 ppm maximum recorded value) and 2018 (0.077 ppm maximum recorded value) (EPA 2022a). There were no other exceedances of EPA air quality standards recorded in Gloucester County during that time.

3.5.1.2 Regulatory Setting

The Project would be subject to specific regulatory requirements for construction and operation during both Phase I and II. Project construction activities would be subject to fugitive dust control requirements. New Jersey manages construction-related soil erosion and stormwater through its adoption of the *Soil Erosion and Sediment Control Act* (New Jersey Statutes Annotated 4:24-39 *et seq*.). Implemented by the New Jersey Department of Agriculture (NJDA) and New Jersey local soil conservation districts (Districts), the Act requires all construction activities greater than 5,000 square feet to be developed in accordance with a SESCP to control erosion during construction.

New Jersey regulations classify new air emissions sources as "major facilities," based on the facility PTE for each criteria air pollutant and for hazardous air pollutants. New Jersey major facility thresholds for operating facilities are summarized in **Table 3.**

Table 3: New Jersey Major Facility Potential-to-Emit Threshold Levels

Pollutant	Major Facility Threshold PTE (tons/year)
Carbon monoxide (CO)	100
Particulate matter < 10 microns (PM_{10})	100
Particulate matter < 2.5 microns ($PM_{2.5}$)	100
Total suspended particulate (TSP)	100
Sulfur dioxide (SO_2)	100
Sulfur dioxide (as a $PM_{2.5}$ precursor)	100
Nitrogen oxides (NO_X)	25
NO_X (as a $PM_{2.5}$ precursor)	100
Volatile organic compounds (VOC)	25
Lead (Pb)	10
Any single hazardous air pollutant (HAP)	10
All HAPs, collectively	25
Any other air contaminant, except CO_2	100

Source: N.J.A.C. Title 7, Chapter 27, Subchapter 22, Operating Permits. Available: https://www.nj.gov/dep/aqm/currentrules/Sub%2022.pdf.

N.J.A.C. 7:27-8.2(c) requires facilities defined as significant sources of air emissions to obtain pre-construction permits and operating certificates. Pre-construction permits and operating certificates are required for significant air emissions sources until an operating permit, as defined in N.J.A.C. 7:27-8.1 and 22.1, is issued for the air emissions source. The terms and conditions of the facility's pre-construction permit and operating certificate would be consolidated in the operating permit upon issuance. Significant sources requiring pre-construction permits and operating certificates include equipment that is used in surface coating operations using greater than 0.5 gallon of liquid coating per hour and welding equipment using greater than 12 pounds of welding rod or welding wire in any calendar day.

A general operating permit is a pre-approved permit to construct and operate for major facilities (subject to Title V of the federal Clean Air Act), issued pursuant to N.J.A.C. 7:27-22.14, for one or more types of similar sources at a facility. The Project would be required to obtain a Title V operating permit no later than 12 months after operation has commenced, in accordance with N.J.A.C. 7:27-22.3(a) and 22.5(f)(2), if the facility exceeds the emissions thresholds listed in Table 3.

Major sources of hazardous air pollutants (HAPs) are subject to EPA National Emission Standards for Hazardous Air Pollutants (NESHAPs) under 40 CFR 63. These standards establish requirements for specific types of equipment and operations at facilities and include NESHAP for *Miscellaneous Surface Coating Operations* under 40 CFR 63. Subpart MMMM. Facilities that are major sources of HAPs and that use at least 250 gallons per year of coatings that contain HAPs in the surface coating of miscellaneous metal parts and products are subject to the requirements of Subpart MMMM.

3.5.2 Project Construction

Project construction emission sources would include equipment emissions and fugitive dust emissions from construction ground disturbance activities such as excavation, grading, and travel on unimproved roads. Diesel-engine nonroad equipment used for Project construction would conform to EPA Tier IV standards, which would reduce NO_X and PM emissions from this equipment compared to non-conforming equipment.

Fugitive dust emissions would be controlled by application of provisions of the SESCP, discussed in Section 3.4.3, which includes BMPs such as wetting work access roads and constructing stone aprons on access points to limit the generation of fugitive dust and debris (NJDEP 2010). Detailed BMPs for the Project are covered in the PMT WDP (NJDEP 2010) and EEW's modified WDP for DA 1 and WDP for DA 2. Fugitive dust emissions during Project construction may have an impact on air quality at the Project site and in the surrounding area. Dust-suppression controls, such as watering as needed and using temporary construction entrances, would be implemented to minimize fugitive dust emissions during construction.

3.5.3 Project Operation

Stationary air emissions sources from Project operations include the following:

- Volatile organic compounds (VOC) emissions – surface coating operations
- HAP emissions – surface coating operations
- Welding operations

Criteria air pollutant and hazardous air pollutant emissions from operation of stationary air emission sources were estimated by EEW and submitted to NJDEP with an air permit application in May 2022 (NJDEP 2022d). **Table 4** displays the estimated PTE for the Project for criteria and HAPs during full operations after Phase II is complete. Air emissions from operation of mobile sources (e.g., transport tractors) are not included in the PTE calculations.

Table 4: Project Potential to Emit and Actual Emissions at Full Operation

Pollutant	Potential to Emit (tpy)
Ethylbenzene	11.54
HAPs (total)	20.4
Manganese compounds	0.079
Nickel compounds	0.0132
PM_{10} (total)	3.62
$PM_{2.5}$ (total)	0.443
Total suspended particulate	7.05
VOCs (total)	42.0
Xylene	8.748

HAPs = hazardous air pollutants; $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter; PM_{10} = particulate matter less than 10 microns in diameter; VOCs = volatile organic compounds.
Source: Baron Environmental, EEW Environmental Management Group. May 2022.

The Project PTE is estimated to be 42 tpy VOC and 20.4 tpy HAPs, including 11.54 tpy ethylbenzene emissions and 8.7 tpy xylene emissions. The PTE for Project operations would exceed the 25 tpy EPA and New Jersey major-source threshold for total VOC emissions and exceed the EPA and New Jersey major-source threshold for any single HAP of 10 tpy for ethylbenzene. Total PTE for HAPs would be 20.4 tpy, including ethylbenzene emissions and xylene emissions; ethylbenzene and xylene are also VOCs.

The Project would also produce mobile-source emissions with the equipment used to move monopiles. The SPMTs used to transport monopiles would be powered by 540-horsepower diesel engines. Three SPMTs would be used during Phase I, increasing to a maximum of five SPMTs during full operation in Phase II. SPMT engines would meet EPA Tier 4 diesel-engine standards, according to the EEW Operations Team (Jacobs Engineering 2022). Tier 4 diesel engines meet the strictest EPA emissions requirement for off-highway diesel engines and exceed the Tier II requirements established in the original PMT WDP (NJDEP 2010) for on-site vehicle usage.

3.5.4 Project Air Permitting Requirements and Impacts

3.5.4.1 Permitting Requirements

As a major source for VOCs and HAPs, the Project has completed the New Jersey major air emission source permitting process in accordance with New Jersey Air Permitting Requirements (N.J.A.C. 7:27-22.1) and is required to obtain a Title V operating permit no later than 12 months after operation has commenced, in accordance with N.J.A.C 7:27-22.3(a) and 22.5(f)(2), and Air Permit Condition FC Ref#7. A Title V operating permit grants a federally regulated source permission to operate. The permit includes all air pollution requirements that apply to the source, including emissions limits and monitoring, record keeping, and reporting requirements. Air emissions were evaluated for the pre-construction air permit by NJDEP, The permitting review determined that Project air emissions would be controlled to the degree represented by the lowest achievable emission rate (NJDEP Pre-construction Permit 220002, November 23, 2022).

Emission controls that would be implemented during Project operation to minimize air quality impacts include the following:

- Dust-collection systems with removal efficiency of up to approximately 99.99 percent each for PM_{10} and $PM_{2.5}$ emissions
- Electrostatic air cleaners to remove airborne particles from the working environment

A level 1 screening risk analysis, following NJDEP methodology (NJDEP Technical Manual 1003, 2018), was conducted and presented in the PCP Permit Application (Baron, 2022) for the project. The results of this analysis demonstrated that a Level 2 risk analysis would be required and conducted by NJDEP prior to issuance of the final Preconstruction Permit (PCP).

NJDEP conducted the Level 2 analysis and issued the final permit for Phase 2 on November 23, 2022 (Permit Activity Number PCP 220002). Issuance of the final permit demonstrated the results from the Level 2 analysis for applicable VOCs and Toxics would be below the NJDEP significance criteria of 1 in one million cancer risk and a hazard quotient of 1 for chronic and acute health impacts (NJDEP Technical Manual 1003 and N.J.A.C. 7:27-8.8). If the results from the analysis had exceeded the NJDEP Level 2 assessment thresholds, either the NJDEP risk management committee would have included requirements in the final PCP to reduce risk to acceptable levels, or NJDEP would have denied the permit per NJAC 7:27-8.14.

3.5.5 Conclusions

EEW obtained all required air permits for Project construction and operation from NJDEP on November 23, 2022, which authorize the emissions levels listed in Table 4. Because ethylbenzene and total VOC emissions exceed major source thresholds, EEW will apply for a Title V air permit within 12 months after construction of the facility is complete, in compliance with Air Permit condition FC Ref#7. EEW is constructing Phase I of the project and would construct Phase II of the Project in compliance with its certified SESCP to control fugitive dust emissions. Construction fugitive dust emissions impacts would be temporary and minor and within levels permitted under the Project's SESCP. In its issuance of operating permits, NJDEP determined that the Project would not affect the state's implementation plan for attainment of the NAAQS and would be protective of public health and welfare. Based on the Project location and existing air quality conditions, estimated air emissions, and compliance with all permit requirements during construction and operation, impacts on air quality resulting from the Project would not be anticipated to be significant. The Project may lead to more maritime traffic visiting the port over time as the offshore wind industry expands and EEW starts Phase I and then Phase II production. Although this potential growth may lead to an increase in diesel emissions from ships in port, the emissions would not be substantially different from existing conditions because large industrial facilities east and west of the Project site currently experience frequent maritime traffic, as do port facilities in the larger Delaware River region of southern New Jersey and greater Philadelphia. Therefore, the indirect effects of the Project on air emissions would not be significant.

3.6 Noise

3.6.1 General Setting

The Project site is located in an industrial corridor along the Delaware River and subject to noise from commercial vessel navigation and Philadelphia International Airport, which is directly across the river from the Project site. The general area of Paulsboro, as well as the Project site, has experienced noise impacts from the operation of petroleum tank farm facilities, other industrial facilities, and the airport for decades, although no noise monitoring data exist from the period of BP facility operation. The Project location is zoned as Marina Industrial Business Park, with adjacent areas zoned for residential and commercial use. Neighboring land uses include port facilities and residential and recreational uses.

Existing sources of noise at the Project site include noise from Phase I and Phase II building construction, including construction equipment and vehicle traffic. Existing sources of noise within EEW's lease boundary include vehicular traffic and ongoing construction activities. Commercial port operations conducted by Holt Logistics are another existing source of noise at PMT but outside of the EEW project area.

3.6.2 Project Construction

The Project would generate temporary noise during construction from the use of heavy machinery, such as bulldozers, graders, excavators, dump trucks, and cement trucks, as well as smaller tools, such as jack hammers and nail guns. Noise and sound levels would be typical of new construction activities and intermittent and temporary. The Project manages noise using BMPs, such as limiting outdoor construction activities to daylight working hours (approximately 7 a.m. to 8 p.m.). Daylight working-hour limitations for construction activities are required by the Noise Control Regulations of the Borough of Paulsboro, which the Project would comply with. These BMPs are currently being implemented for Phase I and will continue to be used for Phase II construction.

There are approximately 250 residences within 0.25 mile of the Project site. These residences could experience short-term adverse impacts from noise generated during construction of the facility. As discussed in Section 3.7, *Transportation*, commercial traffic to the PMT is prohibited from accessing the site through the adjacent neighborhood. Commercial traffic is required to access the PMT through an industrial corridor that directly connects to Interstate 295. There is a physical barrier separating the Project site from the residential area to the west that was designed by the SJPC to NJDOT standards for noise-abating highway barriers (Jacobs Engineering 2022); therefore, it is expected to provide some buffering of noise impacts from Project construction.

3.6.3 Operation

Some Project operations may result in long-term noise impacts, apart from those associated with an increase in commuting workers and trucks transporting materials to and from the facility. The greatest noise levels would be associated with the compressed-air blasting operations in the Paint and Blast buildings at the west side of the site. The loudest piece of equipment would be the vacuum system, which would operate at 90 to 95 A-weighted decibels (dBA), as measured adjacent to the machine. All blasting work would be conducted indoors, in buildings with sound insulation in the form of an interior wall, insulation layer, and exterior wall. The vacuum system is in the center of the paint and blast building, and sound is estimated to attenuate by distance to a level of 75 dB at the building wall. The building insulation is conservatively estimated to attenuate about 20 dB, creating a sound level of roughly 55 dB at the exterior of the building wall. The facility would operate 24 hours a day, 5 days a week. Outdoor washing of monopiles would be limited to daylight hours to avoid nighttime noise impacts.

To minimize noise impacts from Project operations, high-level noise-producing operations would be managed by conducting paint-and-blast operations only indoors and complying with the Noise Control Regulations of the Borough of Paulsboro (Borough of Paulsboro Code Chapter 43: Noise). The Project would not induce additional development or noise impacts through increased numbers of workers at other facilities or for the operations of surrounding facilities. The heavy wharf facilities have been fully permitted and Project-related activities heavy wharf would not increase noise beyond permitted levels. Due to the physical barrier, high-level noise-producing activities being conducted indoors, and dedicated industrial corridor for accessing the site, the direct and indirect noise impacts of Project operations would not be significant.

3.7 Transportation

3.7.1 General Setting

When the existing PMT facility was constructed, the GCIA, in conjunction with NJDOT, constructed a new access road and bridge to the facility, allowing all commercial traffic to access the PMT directly from Interstate 295, Exit 19. The terminal access road extends east approximately 0.75 mile from the terminal entrance, crosses Mantua Creek, and connects to Paradise Road in West Deptford Township. Paradise Road, in turn, connects to Interstate 295, Exit 19, after the intersection of Crown Point Road (New Jersey Route 44); Paradise Road is industrial road that provides access to an existing wastewater treatment plant, asphalt refinery, and power plant and has no residences constructed along its extent.

3.7.2 Project Construction

Employee and commercial truck traffic enters the site from westbound Universal Road, connecting from Paradise Road and Interstate 295. During Phase I construction, an average of 45 construction employees would be on-site, with a peak of 65 employees. For Phase II construction, it is anticipated that an average of 90 construction employees would be on-site each day, with a peak of 130 employees. Construction labor and management would be local to southern New Jersey for Phase I (EEW 2021) and expected to be local for Phase II, according to the Applicant.

Construction-related truck traffic would be generally associated with material deliveries to the site, with paving materials accounting for the majority of the truck deliveries. Approximately 12,000 deliveries associated with paving and subbase, concrete, building steel, and equipment would occur during Phase I. Over the approximate 2-year construction period, this would total about 17 trucks per day. During full-scale paving operations, the maximum number of daily truck trips to the site is estimated to be about 100.

Approximately 8,000 deliveries associated with paving and subbase, concrete, building steel, and equipment would be expected for Phase II construction. The number of trips associated with the building materials would be greater than the number under Phase I, but a smaller area would require pavement as compared with Phase I. This corresponds to about 11 trucks per day over the 2-year Phase II construction period. As with Phase I, the maximum number of daily truck trips to the site is estimated to be about 100; the trips would be associated with full-scale paving operations.

3.7.3 Project Operations

During Phase I operations, as well as full-capacity operations under Phase II, truck and employee traffic traveling to the PMT, including traffic associated with the EEW Project, would increase beyond current conditions. However, heavy truck traffic to the PMT would remain well below the initial estimates made at the time the PMT was originally planned and permitted. The initial estimates in SJPC 2009 and subsequent 2010 WDP assumed a general cargo operation at the PMT, with frequent heavy truck trips to deliver and receive cargo. Traffic impacts were also evaluated in a 2005 NJEIS prepared by T&M Associates for construction of the rail and access road to the PMT (T&M Associates 2005). EEW does not expect oversize truck traffic to be required for Phase I or Phase II operations. Estimated daily traffic with full operation of the Project is summarized in **Table 5**.

Table 5: Project Operation Traffic Impacts (vehicles per day)

Traffic Type	Existing (Construction)	Project Operation	Total
Employee Vehicles	75	462	537
Trucks	15	25	40

Source(s): Jacobs Engineering 2022

During Phase I operations, all raw materials, including monopile segments, would arrive at the Project site by marine vessel. A small volume of truck traffic would be required to deliver general supplies such as welding wire and paint. The rail loop, shown in **Figure 1,** would not be used by EEW during either Project construction of operation.

Due to the road improvements that have already occurred and the controls already in place to reduce traffic congestion during shift changes, Project impacts on transportation would not be anticipated to be significant. Transportation routes and traffic volumes at the PMT and other nearby industrial facilities and residential areas would not change as a result of the Project. The Phase I analysis completed for the WDP complied with N.J.A.C. 7:7-16.12 (c) and (d) and covered full build-out of the terminal to include estimates for Phase II. Any new analysis would therefore be based on the same data used for the Phase I study conducted for

the WDP, which showed that vehicular traffic would not increase above what was proposed in the original PMT permitting (CH2M 2018; SJPC 2009; NJDEP 2010). No long-term traffic impacts or required mitigation measures were identified in the original PMT Waterfront Development Permit (NJDEP 2010). Although visitation to local stores and gas stations may increase as the Project site reaches full employment, EEW would recruit its workforce from the local area, which would not significantly increase the amount of traffic on surface roads. Work-related traffic from employees would be split between three shifts at full production, thereby minimizing employee traffic on local roadways. EEW's manufacturing facility would not induce any new developments that would affect transportation routes or traffic levels. Therefore, indirect impacts on transportation would not be significant.

3.8 Aesthetic and Visual Resources

3.8.1 General Setting

The Project site is at the confluence of the Delaware River and Mantua Creek in the Borough of Paulsboro. The area is historically industrial but adjacent to a residential area that includes Paulsboro Little League fields and the Tinicum Island Range Rear Light Station. Philadelphia International Airport is directly north of the Project site, across the Delaware River. As noted previously, a barrier constructed on an earthen berm separates the PMT as well as the Project site from the Billingsport residential neighborhood. The berm and wall extend to about 16 feet above grade at the outside of the terminal and obstructs any direct views of the terminal and the Project site. The berm and wall were observed by DOE on the March 2022 site visit.

3.8.2 Project Construction and Operation

The upper sections of EEW's six buildings would be visible to approximately 25 residences on Mantua Avenue. High-mast light poles, approximately 100 feet high, on the Project site would also be visible from these locations. The tops of the newly constructed buildings, particularly Paint and Blast Buildings #1 and #2 and the Circular Welding Building, may also be visible from at least some of the residences within 0.25 mile of the Project site during the portion of the year when deciduous trees have little to no foliage. The Project site would dominate the eastern viewshed from the Tinicum Island Range Rear Light Station. However, because the maximum proposed height of the facilities would be commensurate with that of the previous BP oil terminal tanks, which stood approximately 50 to 75 feet tall, the viewshed of the light station would remain largely consistent with the historical viewshed.

The Project would result in permanent visual changes to the site by constructing new buildings on what is currently open industrial land. However, the new facility would have an appearance consistent with that of the previous facilities at the site as well as the PMT cargo cranes, which are already the dominant visual element in the immediate landscape.

Operations at the Project site would occur throughout three shifts 24 hours a day, 5 days a week. Generally, the facility would be lit at nighttime. The lighting system (light-emitting diodes on high-mast light poles) was selected to eliminate glare and focus lighting solely on the operational area. Given the absence of glare and spill light, as well as the presence of a visual barrier, no significant lighting impacts would be anticipated.

Given the presence of the physical barrier on the western PMT boundary and consistency with current and historic industrial land uses, no significant visual impacts related to construction are expected from Project construction and operation. The manufacturing buildings would be designed to accommodate larger monopile sizes in the future as offshore wind turbines are built larger to meet increased power demand. Therefore, the overall height of the buildings is not expected to increase over the Project lifespan. At this time, DOE knows of no other planned developments in the Project area related to the

Project that would affect visual or aesthetic resources, and the land uses in the surrounding area are expected to remain the same throughout the duration of Project operations. Therefore, the indirect impacts of the Project would not be significant.

3.9 Biological Resources, Including Threatened and Endangered Species

3.9.1 General Setting

The PMT is bordered by the tidal waterways of the Delaware River. Tidal flats are present along the northeastern part of the PMT in the Delaware River and along the western shoreline of Mantua Creek (SJPC 2009). The Project site (i.e., the 85-acre EEW lease area) is either developed or currently under construction; there are no extant areas of natural habitat. On the March 2022 site visit, DOE observed little to no vegetation on the Project site. The observed vegetation included only common reed (*Phragmites autralis*), which inhabited peripheral areas of the Project site such as drainage swales and areas between spoil piles where water pools. SJPC 2009 provided an analysis of biological resources, including vegetation and wildlife, which DOE has reviewed and incorporated by reference into this EA.

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool was used to investigate the federally listed wildlife and plant species that may occur in the general area (U.S. Fish and Wildlife Service. n.d.). An official species list was received on March 2, 2022, and updated on July 6, 2023 (Appendix A), showing four species that may occur in the Project area:

- Northern Long-eared Bat (*Myotis septentrionalis*), Endangered
- Red knot (*Calidris canutus rufa*), Threatened
- Tricolored Bat (*Perimyotis subflavus*) Proposed Endangered
- Bog turtle (*Glyptemys muhlenbergii*), Threatened

3.9.2 Project Construction and Operation

Project construction and operation would have no effect on the Northern Long-eared Bat, Red Knot, Tricolored Bat, or bog turtle, according to a determination prepared by DOE pursuant to federal Endangered Species Act (ESA) Section 7. This determination was sent to USFWS in a Biological Assessment prepared by DOE on March 2, 2022; no response was received. An updated official species list was obtained from USFWS on July 6, 2023. There is no Northern Long-eared Bat or Tricolored Bat habitat on the site, defined as caves, mines, or wooded areas. Red knot would experience no effects from the Project because there is no suitable nesting, feeding, or stopover habitat on or near the Project site. There also is no bog turtle habitat, defined as open-canopy herbaceous sedge meadows and fens bordered by wooded areas, on the Project site. The Delaware River shoreline in the Project area is highly industrial. No natural habitats have existed there since at least the early 20th century and the site is a graded industrial site and active marine terminal. Furthermore, the Project would occur in upland areas. Considering the determination, no further consultation with the USFWS under ESA Section 7 is required for these species.

New Jersey state-listed species and priority sites were evaluated for the Project. NJDEP's Bureau of Geographic Information Systems provides an authoritative map of Natural Heritage Priority (NHP) sites in New Jersey, which identify critically important areas for biodiversity, with an emphasis on rare plant species and ecological communities (New Jersey, Department of Environmental Protection. 2022). There are no NHP sites within 1 mile of the Project site; the nearest NHP site is 4.4 miles to the southwest (Repaupo Swamp in Greenwich and Logan Townships).

Due to the no-effect determination for federally listed species and the lack of New Jersey state-listed species or habitat in the Project area, impacts of Project construction and operation on wildlife would not be significant. There are no related developments planned in the Project area that DOE is aware of that would affect the habitat of red knot or bog turtle. Therefore, the indirect impacts of the Project on threatened and endangered species would not be significant.

3.10 Socioeconomics

3.10.1 General Setting

The Project site is in the Borough of Paulsboro, Gloucester County, New Jersey. According to the U.S. Census Bureau (2020a), Paulsboro has a population of 6,196, and Gloucester County has a population of 306,294 (see **Table 6**). According to the American Community Survey (2022), the industries with the highest employment numbers are education, health care, and social services (57 percent of the workforce), followed by retail trade (16 percent) and manufacturing (13 percent). The Project site is zoned as Marina Industrial Business Park. The Paulsboro Police Department is on Delaware Avenue, approximately 1 mile away from the Project site; the Paulsboro Fire Department is on Swedesboro Avenue, approximately 1.5 miles from the Project site; and Inspira Hospital in Woodbury, New Jersey, is approximately 7 miles from the Project site. **Table 5** summarizes the socioeconomic characteristics of Paulsboro compared to Gloucester County and the state of New Jersey. Paulsboro has a lower median household income and poverty rate and a higher percentage of minority populations relative to Gloucester County, as shown in **Table 6**.

Table 6: Population, Ethnicity, Income and Poverty Data (2020)

Population	Paulsboro Borough	Gloucester County	New Jersey
Total Population	6,196	302,294	9,288,994
Race/Ethnicity			
White	48.6%	80.9%	65.5%
Black or African American	40.9%	10.5%	13.4%
Hispanic or Latino	8.1%	6.5%	20.4%
Asian	0.0%	3.1%	9.7%
American Indian or Alaska Native	0.0%	0.1%	0.3%
Native Hawaiian or Pacific Islander	0.0%	0.0%	0.0%
Persons in Poverty	9.3%	7.0%	9.7%
Median Household Income	$45,897	$89,056	$85,245

Source: U.S. Census Bureau 2020b

The ethnic and racial composition of Paulsboro Borough, Gloucester County and New Jersey are presented in **Table 6**. Gloucester County's percentage of persons in poverty is 7 percent; Paulsboro Borough's is 9.3 percent. Although Paulsboro Borough's poverty rate is 2 percent higher than that of Gloucester County, it is 0.4 percent less than that of New Jersey as a whole. The Gloucester County population is predominantly non-minority (81 percent white), while the Borough of Paulsboro has a much higher percentage of people of color (41 percent Black or African American and 49 percent white). Paulsboro also has a 9.3 percent share of persons in poverty, 2.3 percent higher than Gloucester County as a whole but slightly below New Jersey as a whole.

3.10.2 Project Construction and Operation

Construction of the manufacturing facility would occur in two phases. During Year 1, an average of 45 construction employees would be on-site, with a peak of 65 employees. During Years 2 and 3, an average of 90 construction employees would be on-site, with a peak of 130 employees. Construction resources (i.e., labor and management) would be local to southern New Jersey.

Operational activities would begin after Phase I construction is completed, with approximately 150 employees expected during the first phase of operations and approximately 540 employees during full operation of Phase II (**Table 7**). EEW expects to create more than 500 long-term jobs by 2025.

To support workforce development, EEW has collaborated with the New Jersey Economic Development Authority (NJEDA) and local technical schools and colleges to develop the skills required for the jobs EEW will offer. Training programs at educational sites already have commenced to support the hundreds of clean-energy manufacturing jobs that would be available at the Project site.

Table 7: Projected Annual Employment

Labor Categories	Phase I of Operations	Phase II of Operations
Production and Contractors	52	311
Support	33	95
Coating	31	52
White Collar	35	79
Total	151	537

Source: Jacobs Engineering 2022.

EEW is actively recruiting future labor from the existing job pool (within commuting distance), with the goal of sustaining jobs in the community. EEW is operating five training centers to support production needs and develop the specialty skills needed for monopile construction; consequently, no new specialty labor would need to relocate to the area. Therefore, demands on housing, schooling, and residential services are expected to remain the same.

Beneficial socioeconomic impacts would occur from increased employment opportunities, tax-revenue generation, and spending in the local economy. The Project would generate about 540 jobs during operation.

Based on the jobs that would be created during construction and operation of the Project, as well as the availability of a local labor pool, significant beneficial socioeconomic impacts are expected. Increasing technical skills in the local labor pool would better prepare workers for employment opportunities, including the possibility of working at other PMT facilities or construction companies in the area. Even though EEW is partnering with NJEDA, with the intent of benefitting its own projects, workers can take those skills to other employment opportunities as well. Therefore, the Project could create significant beneficial socioeconomic impacts.

3.11 Environmental Justice

3.11.1 General Setting

The general socioeconomic characteristics of the Paulsboro are shown in **Table 6** (see Section 3.10.1), with a higher level of poverty and higher share of minority population compared to Gloucester County as a whole. The Environmental Justice (EJ) evaluation is dependent on determining whether high and adverse impacts from the Project would disproportionately affect minority or low-income populations in the affected community. In accordance with EPA's EJ guidelines, minority populations exist when either the

minority population of the area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage of the general population or appropriate unit of geographic analysis. Under these guidelines, because the percentage for the minority population of Paulsboro is meaningfully greater than that of Gloucester County (49 percent relative to 20.2 percent, respectively), Paulsboro is a minority population community.

3.11.2 Project Construction and Operation

DOE's review of EJ for the Project focuses on Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; the *National-Scale Air Toxics Assessment* (NATA) Cancer Risk and Respiratory Hazard index, as defined in EPA's EJ screening tool; and site-specific population centers near the Project site.[1] Executive Order 12898 directs federal agencies to address environmental and human health conditions in low-income and minority communities. Poverty levels are defined by the U.S. Census Bureau, using income thresholds that vary by family size and composition.

EPA's EJ Screening Tool (*EJScreen*) metric of "Potential Exposure to Environmental Indicators" was used, including the following:

- $PM_{2.5}$ in analysis of variant (micrograms per cubic meter)
- Ozone (parts per billion)
- NATA diesel particulate matter (micrograms per cubic meter of air)
- NATA respiratory hazard index
- NATA cancer risk (lifetime risk per million)
- Traffic proximity and volume (daily traffic count/distance to road)
- Lead-paint indicator (percentage of pre-1960s housing)
- Superfund proximity (site count/distance [kilometers])
- Risk management plan proximity[2] (site count/distance [kilometers])
- Hazardous waste proximity (facility count/distance [meters])

The following demographic indicators were also used:

- People of color population
- Low-income population
- Linguistically isolated population
- Population with less than high school education
- Population under 5 years of age
- Population over 64 Years of age

[1] More information on the National-Scale Air Toxics Assessment (NATA) can be found at www.epa.gov/national-air-toxics-assessment.

[2] Risk Management Plan proximity affects facilities with potential chemical-accident management plans within 5 kilometers.

The EJScreen report, included in **Appendix A,** covers the Borough of Paulsboro, NJ, a 2.63 square mile municipality with a population of 6,196[3] that encompasses the project site. This area is between the 35th percentile in the U.S. for exposure to the environmental indicators, meaning that 35 percent of the U.S. population has a lower exposure risk than people residing in Paulsboro, NJ. These results indicate that EJ is a concern for the communities surrounding the Project area. New Jersey's "EJ Map" tool was also used, which indicated the presence of NJ-designated "overburdened communities" in Paulsboro, including low income and minority populations.

Table 8: EPA's EJScreen Report Selected Indicators

Indicator	Value	State Average	State Percentile	U.S. Average	U.S. Percentile
NATA* Cancer Risk (lifetime risk per million)	30	29	20	28	35
NATA* Respiratory Hazard Index	0.3	0.33	12	0.31	31st
People of Color Population	53%	45%	61	39%	68th
Low-income Population	41%	22%	83	31%	70th

Source: U.S. Environmental Protection Agency. 2022. EJScreen: Environmental Justice Screening and Mapping Tool. Available: https://www.epa.gov/ejscreen.
EPA = Environmental Protection Agency; EJ = Environmental Justice; NATA = National Air Toxics Assessment.

The NATA Cancer Risk and Respiratory Hazard Indices are metrics used for determining how local residents compare to other state residents as well as the entire U.S. population. For the NATA Cancer Risk Index and Respiratory Hazard Index (lifetime risk per million), the Project site is in an area that is in the 30th percentile in the U.S., which means that 30 percent of the U.S. population has a lower risk than people residing in the Project area. Air emissions would be limited by the fact that emission-creating activities (i.e., painting and blasting) would take place indoors and be mitigated by the buildings' ventilation systems to levels permitted by NJDEP. Air quality impacts are analyzed in Section 3.4, *Air Quality*.

Traffic-management strategies outlined in Section 3.6, *Transportation*, would be implemented to minimize the Project's impact on ambient air quality. The SJPC has constructed a dedicated industrial access road to connect the PMT and the Project site to major transportation routes, and no residences exist along its course, further minimizing the local impact of truck traffic. All major manufacturing components would be delivered by maritime vessel at the PMT.

Other measures that would be implemented to minimize and mitigate risks to air quality are provided in Section 3.11, *Health and Safety*, and Section 3.12, *Waste Management*, including air-filtration systems in buildings where blasting, coating, and painting occur. As discussed in Section 3.10.2, EEW is working with NJEDA and local technical schools to offer training programs to the local community to facilitate economic development in the region. Therefore, the Project would not have a significant adverse impact on EJ concerns, nor would it have any significant indirect effects on EJ concerns. At this time, DOE knows of no other planned developments in the Project area related to the Project that would affect EJ concerns. No EJ concerns would result from either construction of the Project or its operation. Any future proposed increases in Project air emissions above NJDEP permitted levels would require additional NJDEP permitting in a manner that would be protective of human health in the environment.

[3] The EPA EJ Screen report lists the population as 6,234, but this document relies on the 2020 U.S. Census number of 6,196.

3.12 Public and Occupational Health and Safety

The potential risks to public and occupational health and safety from Project-related activities during construction and operation were evaluated as part of this EA. Applicable federal, state, and local regulations and standards for construction and operation of the facility would be implemented to ensure the safety of workers and the public. This would include compliance with federal Occupational Safety and Health Administration (OSHA) regulations and conformance with the New Jersey Public Employees Occupational Safety and Health guidelines. Standard occupational safety BMPs would be implemented, including use of personal protective equipment, fall protection, and excavation safety measures. These are outlined in detail in a site-specific health and safety program developed per EEW policy. EEW has developed both a construction playbook and a production playbook, which are maintained on-site and detail all applicable safety procedures for Project construction and operation. EEW facilities include chemical storage areas developed to conform to International Building Code, EPA, National Fire Protection Association, and all other applicable codes and standards.

During operations, the monopile manufacturing process would occur as described in Section 2.2.2 of this EA. The monopile-coating process uses paint and coating materials containing VOCs. During this process, paint is mixed with epoxy and applied to the inside and outside of the monopile using spray guns or by hand when performing touch-ups. The paint and epoxy are mixed within the spraying apparatus immediately before application. Daily cleaning of coating equipment would occur using a solvent-based thinner. Air emissions from painting and blasting monopiles include dust and VOCs, including xylene and ethylbenzene (HAPs). Air quality impacts of VOC and dust emissions from Project operations are evaluated in Section 3.5. Air quality protection measures include building ventilation systems, dust collectors, and personal protective equipment for workers.

The blasting, circular welding, plate welding, and segment welding processes would generate particulate matter emissions but would not exceed those listed in **Table 3**. The roll bending process would not generate waste streams or emissions, other than general waste oils and materials for equipment operation and maintenance. Other potentially hazardous wastes may be generated from facility cleaning outside of the coating operation as well as other materials used in maintenance-shop activities. **Table 9** describes the hazardous chemical products that would be used in the monopile-coating process.

Table 9: Hazardous Chemical Usage

Chemical	Estimated Pounds per Year
Monopile Paint and Epoxy Coatings	320,000
Paint Thinner	2,600
Cleaners	100

Source: Jacobs Engineering 2022

Chemicals used in the monopile-manufacturing process would be delivered to the facility by truck and packaged in drums or in pails on pallets. The facility has prepared an emergency response plan (EEW 2022b) to address all chemical-handling operations at the facility and outline specific steps to be taken in the event of an accidental release. EEW has also performed evaluations of the health and safety impacts of all steps in the manufacturing process. These include standard measures such as the use of personal protective equipment as well as other measures, including using a jib crane to move dust containers so that workers do not have to handle them manually (Jacobs Engineering 2022).

The local fire department would be informed of potential hazards associated with the facility and its construction and site layout information to ensure that first responders and the public are protected from exposure to potentially hazardous situations in the event of a fire or industrial accident.

Due to the implementation of safety BMPs; compliance with federal, state, and local regulations and standards; implementation of plans for preventing chemical spills and the potential mishandling of hazardous materials; and application of EEW's experience with handling and using the same hazardous materials at sister facilities, impacts on the health and safety of workers and the public from Project construction and operation would not be expected to be significant. Standard BMPs and safety measures would continue to be applied throughout Project construction and operation. Once the facility is at full production capacity, no additional safety or health concerns would be anticipated, based on EEW's operating experience at sister facilities in Germany. Therefore, the Project would not have indirect impacts on health and safety.

3.13 Waste Management

Project-related waste streams produced during Project construction would be limited to fluids and materials that are not considered hazardous wastes. During construction, Project-related waste streams would include waste created during general construction activities. Waste produced during general construction activities would include relatively clean construction and building materials such as, wood, plastics, glass, metal scrap (steel, aluminum, etc.), surplus concrete, packaging materials, and excavated fill material. These waste streams would be collected, diverted, and sorted for recycling or disposed of at an approved solid waste landfill. Project contractors would be required to address and appropriately dispose of any liquid waste and spills that result from equipment or construction activities and appropriately manage human waste generated from construction activities.

Project-related waste streams produced during operations would include excess paints, epoxies, dust, and waste oils. Similar to construction, waste produced during normal operations would include human waste, wood, plastics, glass, and packaging materials as well as liquid waste from equipment and facility maintenance activities. When generated, these waste streams would be collected, diverted, and sorted for recycling or disposed of at an approved solid waste landfill. The Project has established a facility-wide Emergency Action Plan to address and properly dispose of any liquid waste created during operations (EEW 2022b).

The Project would produce various waste streams in operation. Materials would be recycled to the extent possible. Non-hazardous waste streams would include general refuse, recycled materials (cardboard, paper, metal), and used flux. The flux would be segregated and disposed of as non-hazardous waste in accordance with local laws and regulations. The Project would dispose of hazardous waste regulated under the Resource Conservation and Recovery Act (RCRA) under EPA Waste Generator ID NJR000082982. The facility's generator status has been initially registered as a Large Quantity Generator (LQG). NJDEP requirements to prepare a Discharge Prevention, Containment, and Countermeasure and Discharge Cleanup and Removal plan (DPCC/DCR) apply only to facilities with storage capacity of 20,000 gallons or more of New Jersey-regulated hazardous substances, excluding petroleum products, or 200,000 gallons of regulated hazardous substances including petroleum products. EEW would not store hazardous wastes in these quantities and therefore a DPCC/DCR is not required under N.J.A.C 7:1E *et seq*.

The types of waste to be disposed were determined by the ingredients in the coating products used in manufacturing and the potential maintenance and cleaning operations that may take place at the facility. EPA RCRA Hazardous Waste Codes for these materials are shown in **Table 10**, and the quantities of each are estimated. These quantities represent the total amount generated at full production after Phase I and Phase II are complete.

Table 10: EPA RCRA Hazardous Waste Codes and Waste Quantities Generated

Waste Code	Waste Code Description	Waste Generated By	Total Annual Waste Quantity (pounds)
D001	Ignitable Waste	Coating application	25,000
D002	Corrosive Waste	Maintenance and cleaning	2,500
D008	Lead	Coating application	500
F003	Spent Nonhalogenated Solvents (Xylene, Ethylbenzene, Methyl Isobutyl Ketone)	Coating application	5,000
F005	Spent Nonhalogenated Solvents (Toluene)	Coating application	2,500

Source: EPA 2022b

The majority of monopile coatings are flammable. Depending on the specific coating, they may also be classified as having aquatic toxicity, causing skin and eye irritations and sensitivity, and producing other health impacts. They would be stored in 55-gallon drums with the drums placed on pallets. The total amount of paint and solvents stored on-site could reach 2,700 gallons at full operation. All paint not used for actual production would be maintained in the isolated paint storage building, which would be specifically designed for storing flammable materials, or in pre-engineered storage cabinets that would be designed for storing flammable materials inside the manufacturing buildings.

Based on data obtained from their sister company, EEW SPC, in Rostock, Germany, EEW expects to recycle large quantities of metal and metal-containing material. In addition, all universal wastes (e.g., batteries, electronics, fluorescent lamps) and off-spec batteries would be recycled. Cardboard, paper, plastic, and glass waste would be sent off-site to a municipal recycling center. Empty pails and drums that once contained manufacturing chemicals would be sent to a certified drum-recycling facility. Any remaining nonhazardous waste that cannot be recycled would be sent to a local municipal waste landfill or incinerated.

Once the facility reaches its full production capacity, no additional hazardous wastes would be expected to be generated, beyond those types and quantities shown in **Table 10,** and the Project would continue to be subject to the facility's Emergency Action Plan (EEW 2022b) and state and local waste management laws and regulations. In addition, the Project would not be expected to induce growth or development that would add to hazardous waste generation. Therefore, no significant direct or indirect impacts would result from waste management.

3.14 Cumulative Impacts

According to the Council on Environmental Quality (CEQ) Implementing Regulations, 40 CFR 1508.1(g), *cumulative impacts* are those impacts on the environment that result from the incremental impact of an action when added to past, present, and reasonably foreseeable future actions. The Project would have no additional impacts on the Delaware River region because it would replace an industrial facility that existed on-site for decades. Resource areas addressed here for potential cumulative impacts are air emissions, other regional industrial development, and marine traffic.

Existing development in the nearby area includes West Deptford Energy, a 738 MW natural gas-fired power plant, and the GCUA wastewater treatment plant, both on Paradise Road. The Paulsboro Refining Company is approximately 2 miles from the Project site. Air emissions from the EEW manufacturing facility would be minor relative to the permitted air emissions from these facilities and not expected to result in a significant cumulative impact on air quality.

EEW's project is part of the larger industrial redevelopment of the PMT. Currently, Holt Logistics operates the rest of the port facility, which currently imports steel slabs from marine vessels at the PMT's deep-water wharf. The port operations utilize a rail loop with rail connections to other freight rail networks (SJPC 2022). There are no plans known to DOE for expansion of operations at the port; however, the recently expanded and deepened wharf could be used for additional marine commerce.

Reasonably foreseeable future actions include the development of the four offshore wind leases currently authorized off the New Jersey coast, which would provide a combined 5,834 MW of renewable electricity (NJDEP 2022e). Currently, monopiles are shipped to the U.S. from other countries, such as Germany or Korea, where EEW has existing operations. Providing monopiles to developments associated with leases would not only save the energy it takes to transport monopiles across the Atlantic Ocean from Europe but also support the development of clean electricity generation and skilled jobs in the U.S. Other reasonably foreseeable development projects were not identified in Project area.

Increased marine vessel traffic at the PMT (e.g., to supply raw materials and receive finished monopiles for installation offshore) is a foreseeable future action associated with the Project. There would be five vessel calls at the PMT during the first year of Phase I operations, which would result in five vessel trips (National Marine Fisheries Service [NMFS] 2022). This would increase to a maximum of 30 to 50 vessel calls per year at full Phase II operation, resulting in 60 to 100 vessel trips per year at the PMT (NMFS 2022). The full production capacity of the Project, at 100 monopiles per year, would limit the number of potential vessel calls to 50. SJPC 2009 conducted an evaluation of navigation impacts as well as vessel emissions. Historically, oil tankers had visited the former BP terminal until it ceased operations. SJPC 2009 found that cargo vessels would have lower diesel exhaust emissions and would spend less time in port than did the oil tankers. SJPC 2009 concluded that the impacts on marine vessel traffic would not be significant and that the overall diesel exhaust emissions from vessel operations would be lower compared to an oil terminal operation because of the different vessel requirements. USACE issued a Section 10 permit to the SJPC for the original PMT wharf construction and to EEW for expanding the berths at the PMT's heavy wharf. These permits authorized the work on the premise that the work would not obstruct navigation. Therefore, the cumulative effect of increased marine traffic on diesel emissions would not be significant.

EEW is the first offshore-wind monopile-manufacturing company to commence operations on the U.S. East Coast and could set the stage for others to follow as the offshore wind market expands. EEW's facility would not be able to produce every monopile used in offshore wind in the U.S.; therefore, it is possible that others would attempt to enter the market and build their own manufacturing operations. New production facilities would be required to complete their own environmental review processes for their relevant jurisdictions.

As part of DOE's evaluation of EEW's loan application, an analysis of the Project's impacts on GHG emissions was completed. EEW is producing purpose-built monopiles for Ørsted's 1,100 MW Ocean Wind 1 (OCW01) Offshore Wind Project, which would avoid 2.6 million tons of carbon dioxide equivalent (CO_2e) annually (compared to average national electricity grid emissions), representing an approximately 98 percent reduction from the grid-electricity business-as-usual case (Ørsted. n.d.). Ørsted's 1,148 MW Ocean Wind 2 (OCW02) Offshore Wind Project, which EEW also would supply, would avoid an additional 5.3 million tons of CO_2e annually (compared to average national electricity grid emissions). EEW would also deploy an additional 5 MW of on-site solar-power generation at the Project site to reduce the facility's grid-electricity demand by 30 to 40 percent, which would result in an additional 3,400 tons of CO_2e avoided during the manufacturing process. Due to the expected reduction in GHG emissions, the Project would have significant beneficial cumulative impacts on the environment.

4.0 FINDING

Based on this EA, DOE has determined that providing a federal loan guarantee to EEW to construct a steel monopile manufacturing facility in Paulsboro, New Jersey will not have a significant effect on the human environment. The preparation of an EIS is therefore not required, and the DOE is issuing this Finding of No Significant Impact (FONSI).

TODD STRIBLEY

Digitally signed by TODD STRIBLEY
Date: 2023.08.07 11:32:38 -06'00'

August 7, 2023

Todd Stribley
NEPA Compliance Officer
Director, Environmental Compliance
DOE Loan Programs Office

Date

5.0 LIST OF AGENCIES CONTACTED

- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- Federal Emergency Management Agency
- Federal Aviation Administration
- Delaware River Basin Commission
- New Jersey Department of Environmental Protection
- New Jersey Economic Development Authority
- New Jersey State Historic Preservation Office
- South Jersey Port Corporation
- Gloucester County Improvement Authority
- Gloucester Utilities Authority
- Gloucester County Soil Conservation District
- Borough of Paulsboro, New Jersey
- Paulsboro Sewer Authority
- South Jersey Gas Company
- Conrail

6.0 LIST OF PREPARERS

6.1 DOE Loan Programs Office

- David A. Oster, NEPA Document Manager
- Todd Stribley, NEPA Compliance Officer

6.2 EEW American Offshore Structures

- Denise M. Charlton, Health, Safety, and Environment Manager

6.3 Jacobs Engineering

- Christopher A. Lawrence, P.E., Principal Project Manager
- Valerie Ross, Senior Principal Technologist

6.4 ICF

- Robert Lanza, P.E., M.Eng. Chemical Engineer Principal
- John Mathias, Technical Editor
- Jenelle Mountain-Castro, Publications Specialist

7.0 REFERENCES

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APPENDIX A AGENCY AND TRIBAL CORRESPONDENCE

Organization	Contact Date(s)	Summary of Contact
New Jersey Department of Environmental Protection	03/02/2022 03/04/2022 05/23/2023	Notice of Intent to Prepare an Environmental Assessment Draft EA review requested Comments on Draft EA received
New Jersey State Historic Preservation Office	03/02/2022 03/29/2022	Section 106 initiation letter Concurrence – no adverse effect on historic resources
Absentee-Shawnee Tribe of Indians- Oklahoma	03/02/2022	Section 106 Initiation Letter
Delaware Nation of Oklahoma	03/02/2022 03/15/2022 04/25/2022 04/25/2022 04/28/2023 05/09/2023 07/06/2023 07/07/2023	Section 106 initiation letter Response accepting invite to consult No adverse effect determination sent Concurrence letter received Government to Government Consultation requested Consultation meeting Consultation follow-up email No further comment - email
Delaware Tribe of Indians	03/02/2022 04/28/2023 07/06/2023	Section 106 initiation letter Government to Government Consultation requested Consultation follow-up email
Shawnee Tribe	03/02/2022	Section 106 Initiation Letter
Stockbridge-Munsee Community	04/29/2023 05/11/2023 07/06/2023	Government to Government Consultation requested Consultation meeting Consultation follow-up email
U.S. Fish and Wildlife Service	03/02/2022 05/23/2023	No effect on threatened or endangered species determination Draft EA comments received

Note:
Each individual letter contained a project location map, but only one is included in this appendix to reduce overall file size and number of pages. An individual letter was submitted to each Indian Tribe, but only the letter to the Delaware Nation is included in this appendix. All responses are included.

Comments Received on Draft Environmental Assessment		
Commenter	**Comment Summary**	**Response**
U.S. Fish and Wildlife Service	Obtain updated IPaC species list and review any changes relative to the project; if no effects include No Effect Letter	Updated species list obtained on July 6, 2023. Environmental consequences for federally listed species discussion was updated in Section 3.9.2, however the no effect determination did not change because of the pre-developed industrial character of the site. No Effect Letter included in Appendix A.
NJDEP - Fish and Wildlife	Impacts to federally-listed threatened or endangered species should be addressed	Dave to provide response -Impacts to federally listed species are considered in Section 3.9. In response to comments from the U.S. Fish and Wildlife Service, an updated IPaC species list was obtained on July 6, 2023 and impacts to those species analyzed. DOE's no effect determination is explained in that section. The project was also reviewed for impacts to State-listed and federally-listed species as part of EEW's application to the NJDEP Division of Land Resource Protection. The approved DLRP permit included a permit condition addressing only the State-listed osprey (Special Condition 2). This condition consisted of a seasonal restriction on the use of heavy construction equipment/machinery within 300 meters of any active osprey nest. However, this permit condition acknowledges that there are no known osprey nests within 300 meters of the project site.
NJDEP	Tidelands Claims in Block 1, Lots 2 and 20	The Gloucester County Improvement Authority was issued a Tidelands Grant on January 23, 2014 (0814-08-0002.1 TDG100001) for the upland portions of Block 1, Lots 2 and 20 that will be developed. In addition, a Tidelands License was also issued on February 24, 2022 (0814-08-0002.1 TDI210002) to allow the rental of tideland areas out shore of these properties. This Tidelands License is in effect for a period of 10 years. The 2014 Grant does not expire. The issued Tidelands Grant and Tidelands License address all tidelands claims on Lots 2 and 20 (both attached). Phase 2 work does occur in Lots 2 and 20, as noted in NJDEP's comments letter. Some of this work, mostly grading, bioswale construction, some stormwater piping and structures, and a limited area of pavement

		overlaps with the Tidelands Claim areas identified in the grant. Based on the grant and license, EEW believes that required contact with the Bureau of Tidelands Management has been completed.
NJDEP	Construction-related de-watering authorization may be required	Construction related de-watering for rain and stormwater is covered in the Project's existing stormwater construction permit. Rainfall that may collect in excavation areas can be discharged consistent with the construction stormwater discharge authorization 5G3 GP (NJPDES General Permit #NJG0341649).
NJDEP	Treatment Works Approval Application must be submitted	A Treatment Works Approval will be submitted prior to construction of Phase II.
NJDEP	Surface Water & PreTreatment Permitting	Construction related de-watering for rain and stormwater is covered in the Project's existing stormwater construction permit. Groundwater has not been and is not expected to be encountered during construction given the amount of fill on the site and depth to the water table. Therefore, the B7 Discharge Permit is not applicable.
NJDEP	Air Quality – reclassified Ozone nonattainment area	Air quality discussion updated in Section 3.5
NJDEP	Mobile Source Air Permitting	Discussed in Section 3.5.3 -Construction Specifications will require that non-road equipment greater than 100 horsepower used on the project for more than ten days should have engines that meet the USEPA Tier 4 non-road emission standards, or the best available emission control technology that is technologically feasible for that application.
NJDEP – Office of Environmental Justice	Utilize NJ's EJMAP application in addition to U.S. EPA's EJ Screen used for Draft EA	NJEJMAP was utilized, indicating the presence of an NJ-designated "overburdened community" in Paulsboro. Sections 3.10 and 3.11 were updated. Potential environmental justice concerns were identified in these areas using the EPA EJScreen and were analyzed in the Draft EA. Due to measures EEW is taking to avoid and minimize impacts on air quality, transportation, waste management, and health & safety, the conclusions are not changed.

Department of Energy
Washington, DC 20585

March 2, 2022

Katherine Nolan
Team Leader, Environmental Review and Coordination
Office of Permitting and Project Navigation
New Jersey Department of Environmental Protection
401 East State St, PO Box 420
Trenton, NJ 08625

SUBJECT: Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan to EEW American Offshore Structures, Inc., for Offshore Wind Turbine Monopile Manufacturing in Paulsboro, NJ

Dear Katherine Nolan,

Under Title XVII of the Energy Policy Act (Act) of 2005, the U.S. Department of Energy (DOE) is evaluating whether to provide a federal loan guarantee to EEW American Offshore Structures, Inc. for the construction and operation of an offshore wind turbine steel monopile manufacturing facility in Paulsboro, New Jersey (DOE's proposed action). DOE intends to prepare an Environmental Assessment (EA) to support the decision of whether to issue the loan. The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's action is to comply with our mandate under Title XVII to expedite the deployment of new energy technologies in the United States to reduce greenhouse gas emissions. DOE has determined that production of offshore wind turbine steel monopiles as proposed by EEW is consistent with the goals of the Act, and is using the NEPA process to assist in determining whether to issue a loan guarantee to EEW to support the proposed project.

EEW is constructing the facility at the Paulsboro Marine Terminal (PMT, see Attachment 1, Site Location), an area wholly owned by the South Jersey Port Corporation and State of New Jersey (site owners). PMT has undergone extensive site work since 2011 in preparation for offshore wind activities. The proposed facility would be developed on 11 acres out of EEW's 80 acre lease on PMT property. EEW currently has plans to construct

six manufacturing buildings and ancillary buildings for offices and storage. A detailed environmental analysis has been done on the site pursuant to federal, state, and local laws and regulations, including a New Jersey Executive Order No. 2015 Environmental Impact Statement (2009) and New Jersey Waterfront Development Permit (2010, 2018). Therefore, the scope of this EA will be limited to the area shown in Attachment 1.

The DOE NEPA regulations provide for the notification of host states of NEPA determinations and for the opportunity for host states to review EAs prior to DOE approval. This process is intended to improve coordination and to facilitate early and open communication. DOE will provide the draft EA to you for your review and comment.

If you or your staff would like to receive further information concerning this project or DOE's NEPA process for Title XVII loans, please contact me in the DOE Loan Programs Office at (240) 457-7973, or email at David.Oster@hq.doe.gov.

Sincerely,

David A. Oster
NEPA Document Manager
Loan Programs Office

Attachments:

Project Location

Notes:

1. Orthoimagery was obtained from USGS (earthexplorer.usgs.gov) as part of the 201504_four_counties_nj_1ft_sp_cnir dataset. Photographs were taken between April 1, 2015 and April 18, 2015.

AKRF, INC.
307 FELLOWSHIP ROAD
SUITE 214
MOUNT LAUREL, NJ 08054
(856) 797-9930 (PHONE)
(856) 797-9932 (FAX)

PROJECT

Ørsted

Paulsboro Marine Terminal Facility

DRAWN BY	CHECKED BY
TR	TR/RR
SCALE	DATE
1" = 400'	April 22, 2020

SHEET TITLE

Aerial View

Figure 2

Oster, David

From: Nolan, Katherine [DEP] <Katherine.Nolan@dep.nj.gov>
Sent: Friday, March 4, 2022 12:22 PM
To: Oster, David
Cc: Brunatti, Megan [DEP]
Subject: [EXTERNAL] RE: US DOE - Notice of Environmental Assessment

Good Afternoon David,

Thank you for providing notice to the Department. We look forward to receiving the Environmental Assessment and will provide comments as part of the NEPA process.

Sincerely,

Katie Nolan
Team Leader of Renewable Energy & Offshore Wind
Team Leader of Environmental Review & Coordination
New Jersey Department of Environmental Protection
Office of Permitting & Project Navigation
401 East State Street
Trenton, NJ 08625-0420

Office #: (609) 292-3600
Direct #: (609) 984-6506
Email: Katherine.Nolan@dep.nj.gov

From: Oster, David <david.oster@hq.doe.gov>
Sent: Wednesday, March 2, 2022 10:21 AM
To: Nolan, Katherine [DEP] <Katherine.Nolan@dep.nj.gov>
Subject: [EXTERNAL] US DOE - Notice of Environmental Assessment

Good Morning,

Please see the attached letter regarding a proposed US Department of Energy action (providing a federal loan guarantee to a private company to construct and operate a offshore wind turbine steel monopile manufacturing facility on former petroleum tank farm) in Paulsboro, New Jersey. Please let me know if you have any comments or questions.

Respectfully,
Dave

David A. Oster
Environmental Compliance
Loan Programs Office

HPO Project # 22-0675-1
HPO-C2022-177

Department of Energy
Washington, DC 20585

March 2, 2022

Dr. Jesse West-Rosenthal, Historic Preservation Specialist 2
Historic Preservation Office
New Jersey Department of Environmental Protection
501 East State Street
Trenton, NJ 08625-0420

SUBJECT: U.S. Department of Energy, EEW American Offshore Structures, Inc.; Section 106 Initiation

Dear Dr. West-Rosenthal:

Under Title XVII of the Energy Policy Act of 2005, the U.S. Department of Energy (DOE) is evaluating whether to provide a federal loan guarantee to EEW American Offshore Structures, Inc. (EEW) for the construction of an offshore wind turbine steel monopile manufacturing facility in Paulsboro, New Jersey. (DOE's proposed action and undertaking). The project site was used for petroleum and chemical storage since World War I, and most recently by British Petroleum until 1996. The facilities and buildings associated with BP's operations were removed by the site owners and the APE is now a flat open area with new construction activities. The purpose of this letter is to consult with the New Jersey State Historic Preservation Office under Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, present the DOE undertaking and the associated area of potential effect (APE), and give an overview of previous investigations from the site.

DOE Undertaking and APE

EEW is constructing the facility at the Paulsboro Marine Terminal (PMT, see Attachment 1, Site Location), an area wholly owned by the South Jersey Port Corporation and State of New Jersey (site owners). PMT has undergone extensive site work by the site owners since 2011 in preparation for offshore wind activities. The proposed facility would be developed on 11 acres out of EEW's 80 acre lease on PMT property. EEW currently has plans to construct six manufacturing buildings and ancillary buildings for offices and storage.

The DOE undertaking (providing a federal loan guarantee to EEW) would support the construction and operation of the manufacturing buildings. The Area of Potential Effect

(APE) includes EEW's 80 lease where ground disturbing activities will occur (Attachment 1).

Previous Investigations

Cultural resources at PMT were evaluated in detail in a 2009 NJ Executive Order No. 215 Environmental Impact Statement (EIS) and 2010 NJ Waterfront Development Permit (WDP) by the South Jersey Port Corporation. The EIS and WDP analyses found that an archaeological site (NJSM No. 28-GL-239) may occur in the EEW project area; however, since the 1920s, roughly 30 feet of dredged and fill material have been placed on this site, separating it from the native material for much of its industrial history. This includes 300,000 cubic yards of fill placed since 2010 as part of PMT development by the site owners.

Requesting your Concurrence and Next Steps

There are no cultural resource areas on the site according to the New Jersey Cultural Resources GIS Online Map Viewer. The site is in NJ Archaeological site Grids AK 207 and AK 208. The applicant reports that a State (NJ Register Reference #208) and National Registered Historic Place (National Register Reference #5001053), the Tinicum Island Range Rear Light Station, is located approximately 400 feet west of the project boundary. The currently functioning lighthouse was built in 1880 and holds regularly scheduled tours. There is also a Tinicum Rear Range Lighthouse Society that meets at the Paulsboro Municipal Building monthly. However, this property is outside of the APE. In addition, DOE requests more information on NJSM No. 28-GL-239 as noted above. Because of the industrial history and 30 or more feet of fill placed on it over the years, we do not expect any archaeological sites to be in the vicinity of any of the current ground disturbing activities.

As part of the Section 106 process, DOE requests your concurrence of the APE and any comments you may have on the proposed action. If you have any questions or would like to discuss this project further, please contact me in the DOE Loan Programs Office at (240) 457-7973, or email at David.Oster@hq.doe.gov.

I concur with your finding that there are **no historic properties affected** within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Katherine J. Marcopul — 3/29/2022

Katherine J. Marcopul — Date
Deputy State Historic Preservation Officer

Sincerely,

David Oster
Digitally signed by David Oster
Date: 2022.03.02 09:45:34 -05'00'

David A. Oster
NEPA Document Manager
Loan Programs Office

Attachments:
Site Location

Department of Energy
Washington, DC 20585

March 2, 2022

Nekole Alligood
Director of Historic Preservation
Delaware Nation, Oklahoma
P.O. Boc 825 Anadarko, OK 73005

SUBJECT: Proposed Federal Loan Guarantee to EEW American Offshore Structures, Inc. Project in Paulsboro, NJ Section 106 Consultation

Dear Nekole Alligood:

Under Title XVII of the Energy Policy Act of 2005, the U.S. Department of Energy (DOE) is evaluating whether to provide a federal loan guarantee to EEW American Offshore Structures, Inc. (EEW) for the construction of an offshore wind turbine steel monopile manufacturing facility in Paulsboro, New Jersey. (DOE's proposed action and undertaking). The project site was used for petroleum and chemical storage since World War I, and most recently by British Petroleum until 1996. The facilities and buildings associated with BP's operations were removed by the site owners and the APE is now a flat open area with new construction activities. The purpose of this letter is to consult with the Delaware Nation under Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, present the DOE undertaking and the associated area of potential effect (APE), and give an overview of previous investigations from the site.

DOE Undertaking and APE

EEW is constructing the facility at the Paulsboro Marine Terminal (PMT, see Attachment 1, Site Location), an area wholly owned by the South Jersey Port Corporation and State of New Jersey (site owners). PMT has undergone extensive site work by the site owners since 2011 in preparation for offshore wind activities. The proposed facility would be developed on 11 acres out of EEW's 80 acre lease on PMT property. EEW currently has plans to construct six manufacturing buildings and ancillary buildings for offices and storage.

The DOE undertaking (providing a federal loan guarantee to EEW) would support the construction and operation of the manufacturing buildings. The Area of Potential Effect (APE) includes EEW's 80 lease where ground disturbing activities will occur (Attachment 1).

This letter is intended to notify you of the proposed Federal project (a potential loan guarantee to EEW), identify if you have an interest in the proposed project site in Paulsboro, New Jersey, and provide you with the opportunity to comment. Any comments or concerns you provide will help ensure that DOE considers Tribal interests and complies with its NEPA and NHPA Section 106 responsibilities.

I would greatly appreciate notification if you do or do not have an interest in the project sites, as well as any comments or concerns you may have by April 1, 2022. Should you have an interest in the project sites, I will provide you with additional information pursuant to NEPA and the NHPA as it becomes available. Please provide your notification of interest and any comments or concerns by email at David.Oster@hq.doe.gov, or I can also be reached by telephone at 240-457-7973

Respectfully,

David Oster
NEPA Document Manager
Loan Programs Office

Attachment:

Project Location

The Delaware Nation
Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005
Phone (405)247-2448

March 15, 2022

To Whom It May Concern:

The Delaware Nation Historic Preservation Department received correspondence regarding the following referenced project(s).

Project(s): Proposed Federal Loan Guarantee to EEW American Offshore Structures, Inc. Project in Paulsboro, NJ

Our office is committed to protecting tribal heritage, culture and religion with particular concern for archaeological sites potentially containing burials and associated funerary objects. The Lenape people occupied the area indicated in your letter during and prior to European contact until their eventual removal to our present locations. There is always the potential for the discovery of cultural resources in this area. **We would like to accept your invitation for consultation.**

Please note that Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Community are the only Federally Recognized Delaware/Lenape entities in the United States and consultation for Lenape homelands must be made with only the designated staff of these three Nations (and/or other federally recognized tribal nations who may have overlapping areas of interest). We appreciate your cooperation in contacting the Delaware Nation Historic Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405-247-2448 ext. 1403.

Erin N. Paden

Erin Paden
Director of Historic Preservation
Delaware Nation
31064 State Highway 281
Anadarko, OK 73005
Ph. 405-247-2448 ext. 1403
epaden@delawarenation-nsn.gov

Delaware Nation
Tribal Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005
Phone (405)247-2448

April 25, 2022

To Whom It May Concern:

The Delaware Nation Historic Preservation Department received correspondence regarding the following referenced project(s).

Project(s): Proposed Federal Loan Guarantee to EEW American Offshore Structures, Inc. Project in Paulsboro, NJ

Our office is committed to protecting tribal heritage, culture, and religion with particular concern for archaeological sites potentially containing burials and associated funerary objects. The Lenape people occupied the area indicated in your letter prior to European contact until their eventual removal to our present locations. **We accept your invitation to consult.** We concur that in light of the significant depth and extent of previous disturbance, the location of the proposed project should have **no adverse effect on** any known cultural or religious sites of interest to the Delaware Nation, but there is always the potential for discovery of archaeological resources in this area. Should the scope of the project be amended to include any additional ground-disturbing activity, you will need to reinitiate consultation with our office. **Please send us a copy of the unanticipated discovery plan for our review.** Keep in mind during construction should Native American archaeological resources be inadvertently uncovered, all construction and ground disturbing activities should immediately be halted until the appropriate state agencies, **as well as this office**, are notified (within 24 hours), and a proper archaeological assessment can be made.

Please note that Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Community are the only Federally Recognized Delaware/Lenape entities in the United States and consultation for Lenape homelands must be made with only the designated staff of these three Nations (and/or other federally recognized tribal nations who may have overlapping areas of interest). We appreciate your cooperation in contacting the Delaware Nation Historic Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405-247-2448 ext. 1403.

Katelyn Lucas

Katelyn Lucas
Historic Preservation Assistant
Delaware Nation
405-544-8115
klucas@delawarenation-nsn.gov

Department of Energy
Washington, DC 20585

March 2, 2022

Eric Schrading
Field Supervisor, New Jersey Ecological Services Field Office
U.S. Fish and Wildlife Service
4 E. Jimmie Leeds Road
Galloway, NJ 08205

SUBJECT: Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan to EEW American Offshore Structures, Inc., for Offshore Wind Turbine Monopile Manufacturing in Paulsboro, NJ

Dear Eric Schrading,

Under Title XVII of the Energy Policy Act (Act) of 2005, the U.S. Department of Energy (DOE) is evaluating whether to provide a federal loan guarantee to EEW American Offshore Structures, Inc. for the construction and operation of an offshore wind turbine steel monopile manufacturing facility in Paulsboro, New Jersey (DOE's proposed action). DOE intends to prepare an Environmental Assessment (EA) to support the decision of whether to issue the loan. The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's action is to comply with our mandate under Title XVII to expedite the deployment of new energy technologies in the United States to reduce greenhouse gas emissions. DOE has determined that production of offshore wind turbine steel monopiles as proposed by EEW is consistent with the goals of the Act, and is using the NEPA process to assist in determining whether to issue a loan guarantee to EEW to support the proposed project.

EEW is constructing the facility at the Paulsboro Marine Terminal (PMT, see Attachment 1, Site Location), an area wholly owned by the South Jersey Port Corporation and State of New Jersey (site owners). PMT has undergone extensive site work since 2011 in preparation for offshore wind activities. The proposed facility would be developed on 11 acres out of EEW's 80 acre lease on PMT property. EEW currently has plans to construct six manufacturing buildings and ancillary buildings for offices and storage. A detailed

environmental analysis has been done on the site pursuant to federal, state, and local laws and regulations, including a New Jersey Executive Order No. 2015 Environmental Impact Statement (2009) and New Jersey Waterfront Development Permit (2010, 2018). Therefore, the scope of this EA will be limited to the area shown in Attachment 1.

The DOE NEPA regulations provide for the notification of interested parties and for the opportunity to review EAs prior to DOE approval. This process is intended to improve coordination and to facilitate early and open communication. DOE will provide the draft EA to you for your review and comment.

If you or your staff would like to receive further information concerning this project or DOE's NEPA process for Title XVII loans, please contact me in the DOE Loan Programs Office at (240) 457-7973, or email at David.Oster@hq.doe.gov.

Sincerely,

David A. Oster
NEPA Document Manager
Loan Programs Office

Attachments:

Project Location

United States Department of the Interior

FISH AND WILDLIFE SERVICE New Jersey Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, New Jersey 08205
Tel: 609/646 9310

To Whom It May Concern:

Section 7(a)(2) of the Endangered Species Act (ESA) requires Federal agencies to consult with the U.S. Fish and Wildlife Service (Service) to ensure that actions they fund, authorize, permit or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats. Federal agencies (or their designated representatives) must initiate consultation with the Service if a proposed action may affect one or more listed species. In addition, the Service provides review of non-Federal actions that may affect federally listed species or their habitats as technical assistance to help non-Federal project proponents ensure compliance with the ESA and with New Jersey land use regulations. Staffing constraints limit the Service's New Jersey Field Office to reviewing only those projects that may affect federally listed species. The may affect determination is made by the Federal action agency or non-Federal project proponent using the information and instructions on our web site.

Federal agencies are not required to contact the Service if a proposed action will have no effect on listed species, or if no listed species are present in the action area. No further ESA consultation or coordination is necessary for projects where the Federal action agency or non-Federal project proponent has followed the procedures on our web site and determined that proposed project activities will have no effect on federally listed species. Service concurrence with a no effect determination is not required under the ESA and will not be provided by the New Jersey Field Office due to limited staffing. In addition to this letter, the Federal action agency or non-Federal project proponent should retain in their files documentation from our web site at the time of their review, including a dated copy of the report generated by our Information, Planning, and Conservation System (IPaC). **Both Federal and non-Federal project proponents are responsible for generating and maintaining in their files adequate documentation to support a no effect determination, by following the instruction on our web site.** Note that under the ESA, a species list is valid for only 90 days; thus, the Service recommends consulting our web site regularly during project planning and implementation for updated species lists and information.

Thank you for your cooperation. Please contact Ron_Popowski@fws.gov, if you have any questions or require further assistance regarding federally listed threatened or endangered species.

Sincerely,

Eric Schrading
Field Supervisor

A *NO EFFECT* DETERMINATION IS VALID ONLY WITH AN ATTACHED IPaC REPORTAND SUPPORTING DOCUMENTATION AS DETAILED OUR WEB SITE.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Ecological Services Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 08205
Phone: (609) 646-9310

In Reply Refer To: July 06, 2023
Project Code: 2022-0014692
Project Name: Offshore Wind Steel Monopile Manufacturing Facility at Paulsboro NJ Marine Terminal

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

If the enclosed list indicates that any listed species may be present in your action area, please visit the New Jersey Field Office consultation web page as the next step in evaluating potential project impacts: http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

On the New Jersey Field Office consultation web page you will find:

- habitat descriptions, survey protocols, and recommended best management practices for listed species;
- recommended procedures for submitting information to this office; and
- links to other Federal and State agencies, the Section 7 Consultation Handbook, the Service's wind energy guidelines, communication tower recommendations, the National Bald Eagle Management Guidelines, and other resources and recommendations for protecting wildlife resources.

The enclosed list may change as new information about listed species becomes available. As per Federal regulations at 50 CFR 402.12(e), the enclosed list is only valid for 90 days. Please return to the ECOS-IPaC website at regular intervals during project planning and implementation to obtain an updated species list. When using ECOS-IPaC, be careful about drawing the boundary of your Project Location. Remember that your action area under the ESA is not limited to just the footprint of the project. The action area also includes all areas that may be indirectly

affected through impacts such as noise, visual disturbance, erosion, sedimentation, hydrologic change, chemical exposure, reduced availability or access to food resources, barriers to movement, increased human intrusions or access, and all areas affected by reasonably forseeable future that would not occur without ("but for") the project that is currently being proposed.

Additionally, please note that on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The bat, currently listed as threatened, faces extinction due to the range-wide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across the continent. The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022). If your project may result in incidental take of NLEB after the new listing goes into effect this will first need to addressed in an updated consultation that includes an Incidental Take Statement. If your project may require re-initiation of consultation, please contact our office for additional guidance.

We appreciate your concern for threatened and endangered species. The Service encourages Federal and non-Federal project proponents to consider listed, proposed, and candidate species early in the planning process. Feel free to contact this office if you would like more information or assistance evaluating potential project impacts to federally listed species or other wildlife resources. Please include the Consultation Tracking Number in the header of this letter with any correspondence about your project.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Jersey Ecological Services Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 08205
(609) 646-9310

PROJECT SUMMARY

Project Code: 2022-0014692

Project Name: Offshore Wind Steel Monopile Manufacturing Facility at Paulsboro NJ Marine Terminal

Project Type: Commercial Development

Project Description: The US Department of Energy is deciding whether to issue a federal loan guarantee to a private company building a manufacturing facility at the Paulsboro Marine Terminal in Paulsboro, NJ. The project would involve the construction of six manufacturing buildings and ancillary structures for offices and storage on roughly 500,000 square feet of land. The project site was formerly a petroleum tank farm and industrial area. No wetlands would be affected and there is no in-water work. No trees or vegetation would be removed. Since 2011 the State of New Jersey and South Jersey Port Corporation (site owners) have invested over $250 million in the project site, constructing a modern port, grading the site, and creating road and rail connections, with the intention of supporting offshore wind activities. The scope of this federal decision covers construction and operation of the manufacturing buildings and support structures. Port improvements, road and rail construction, and site grading have already been completed by the site owners. Please forward any comments or questions to David.Oster@hq.doe.gov

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.84770615,-75.23346416424117,14z

Counties: Gloucester County, New Jersey

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. This species only needs to be considered under the following conditions: ▪ This activity area is upstream of red knot habitat. Consultation is needed ONLY for proposed new or changed petroleum product storage or transport, and for spill response planning. No other activity types are expected to affect red knots in this area. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Bog Turtle *Glyptemys muhlenbergii*	Threatened

Population: Wherever found, except GA, NC, SC, TN, VA

No critical habitat has been designated for this species.

This species only needs to be considered under the following conditions:

- Activity is in a supporting watershed for known/suspected bog turtle habitat. Consultation recommended only for activities involving significant changes to surface/ground water, including stormwater. See details on FWS NJFO website.

Species profile: https://ecos.fws.gov/ecp/species/6962

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.

This species only needs to be considered under the following conditions:

- The monarch is a candidate species and not yet listed or proposed for listing. There are generally no section 7 requirements for candidate species (FAQ found here: https://www.fws.gov/savethemonarch/FAQ-Section7.html).

Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31

NAME	BREEDING SEASON
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler *Vermivora pinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Cerulean Warbler *Dendroica cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Gull-billed Tern *Gelochelidon nilotica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

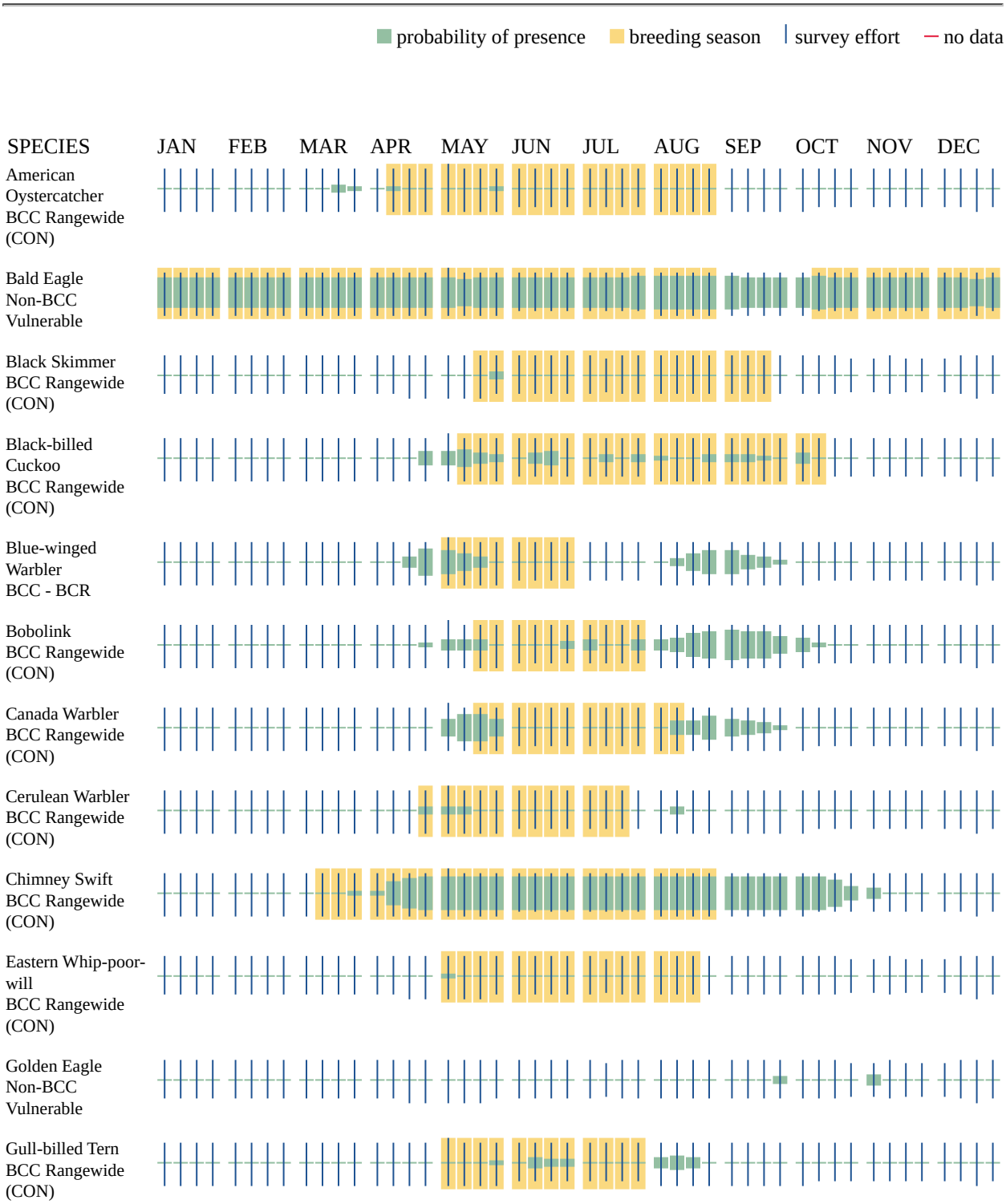
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

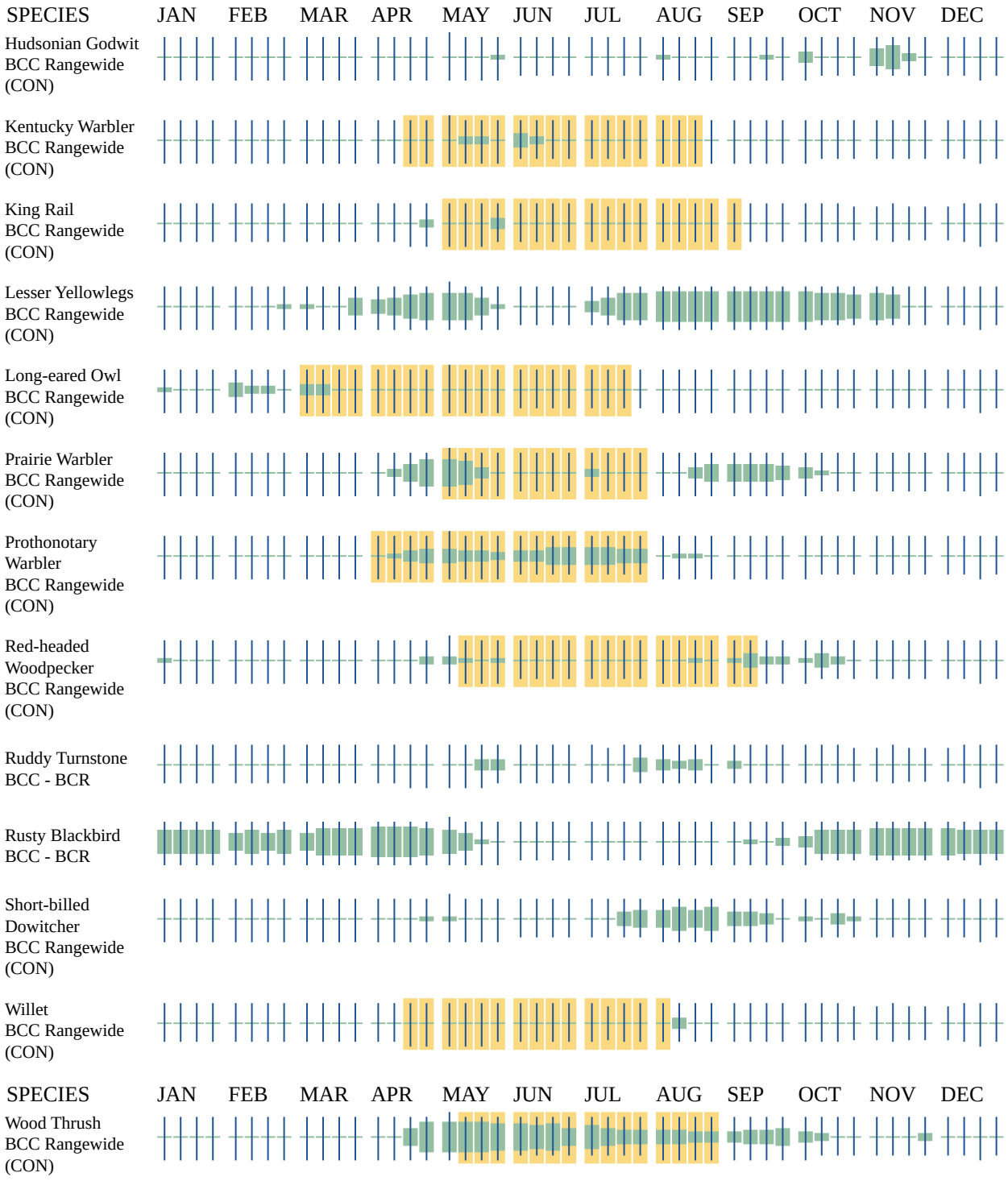
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look

at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be

aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1/EM5R

FRESHWATER POND

- PUBHx
- PUBFx

IPAC USER CONTACT INFORMATION

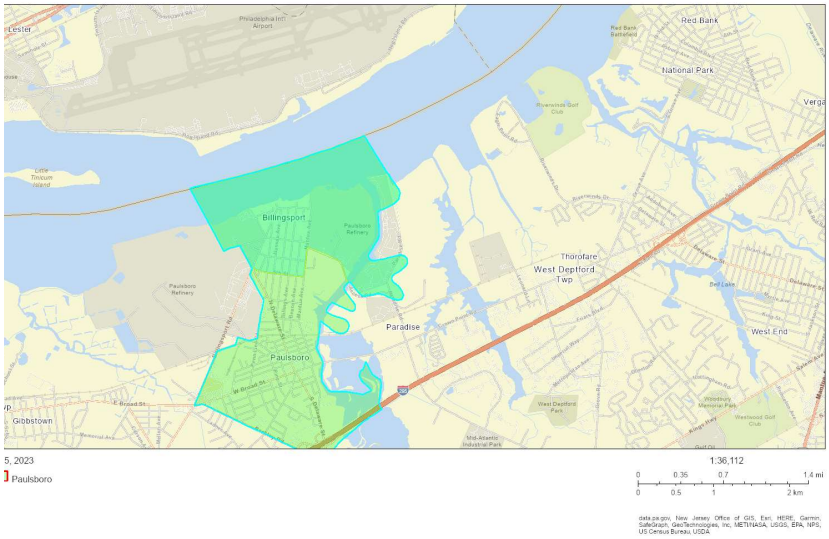
Agency: Department of Energy
Name: David Oster
Address: 1000 Independence Ave SW
City: Washington, D.C.
State: DC
Zip: 20585
Email daoster973@gmail.com
Phone: 2404577973

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Paulsboro, NJ

City: Paulsboro
Population: 6,234
Area in square miles: 2.63



COMMUNITY INFORMATION

- Low income: 41 percent
- People of color: 53 percent
- Less than high school education: 11 percent
- Limited English households: 4 percent
- Unemployment: 8 percent
- Persons with disabilities: 17 percent
- Male: 43 percent
- Female: 57 percent
- 73 years — Average life expectancy
- $35,433 — Per capita income
- Number of households: 2,685
- Owner occupied: 76 percent

BREAKDOWN BY RACE

- White: 48%
- Black: 32%
- Asian: 2%
- Hispanic: 11%
- American Indian: 1%
- Hawaiian/Pacific Islander: 0%
- Other race: 4%
- Two or more races: 13%

BREAKDOWN BY AGE

From Ages 1 to 4	5%
From Ages 1 to 18	17%
From Ages 18 and up	83%
From Ages 65 and up	20%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	0%
Speak Other Indo-European Languages	6%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	94%

Notes: Numbers may not sum to totals due to rounding. Hispanic popultion can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	89%
Spanish	6%
Other Asian and Pacific Island	1%
Arabic	4%
Total Non-English	11%

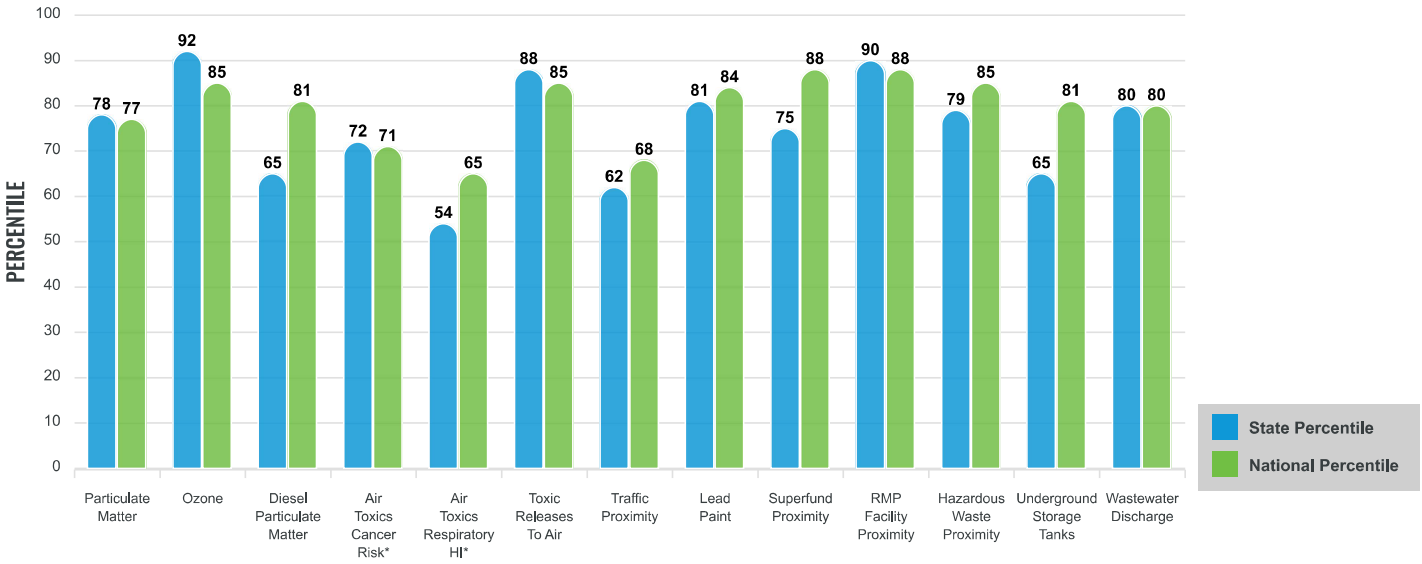
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

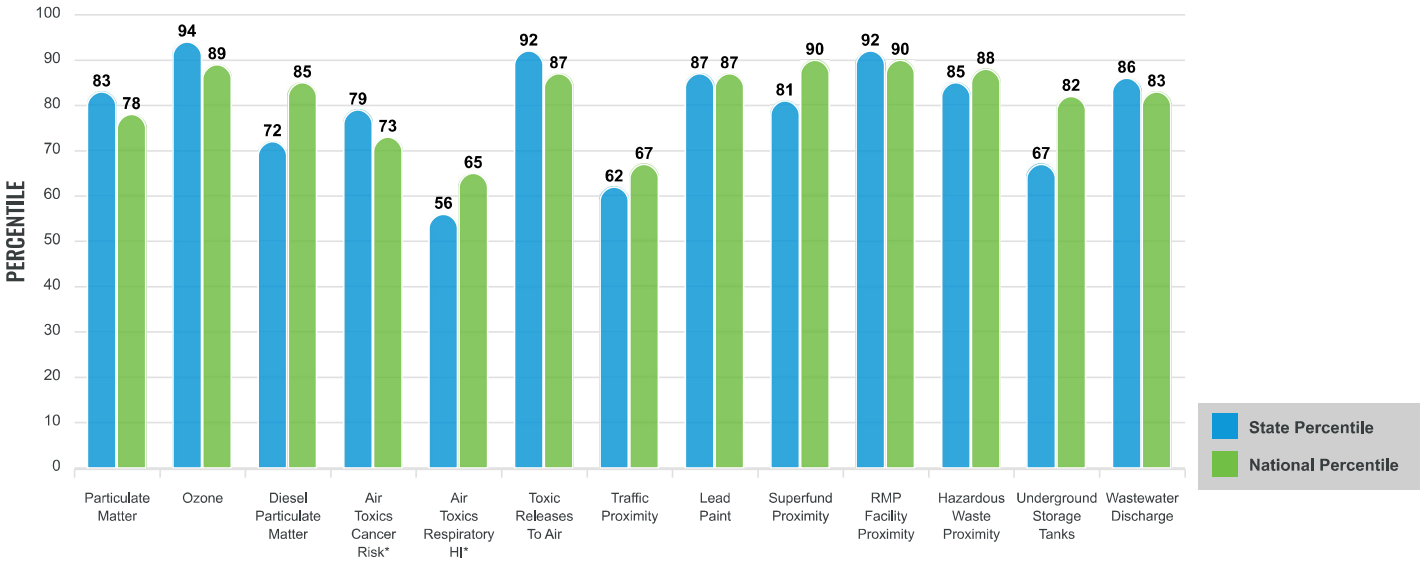
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for City: Paulsboro

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	8.55	8.05	71	8.08	60
Ozone (ppb)	66.4	63.9	87	61.6	82
Diesel Particulate Matter (µg/m^3)	0.352	0.414	48	0.261	77
Air Toxics Cancer Risk* (lifetime risk per million)	30	29	20	28	35
Air Toxics Respiratory HI*	0.3	0.33	12	0.31	31
Toxic Releases to Air	2,900	1,100	95	4,600	79
Traffic Proximity (daily traffic count/distance to road)	79	210	38	210	50
Lead Paint (% Pre-1960 Housing)	0.77	0.44	84	0.3	89
Superfund Proximity (site count/km distance)	0.36	0.45	65	0.13	92
RMP Facility Proximity (facility count/km distance)	4.3	0.3	99	0.43	99
Hazardous Waste Proximity (facility count/km distance)	5.3	2.8	80	1.9	90
Underground Storage Tanks (count/km^2)	6.3	15	45	3.9	81
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.088	0.045	94	22	81
SOCIOECONOMIC INDICATORS					
Demographic Index	47%	33%	73	35%	71
Supplemental Demographic Index	18%	12%	81	14%	74
People of Color	53%	45%	61	39%	68
Low Income	41%	22%	83	31%	70
Unemployment Rate	15%	6%	91	6%	91
Limited English Speaking Households	4%	7%	61	5%	73
Less Than High School Education	11%	10%	68	12%	59
Under Age 5	5%	5%	52	6%	50
Over Age 64	20%	17%	72	17%	68
Low Life Expectancy	25%	18%	96	20%	90

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund 0
Hazardous Waste, Treatment, Storage, and Disposal Facilities 2
Water Dischargers 20
Air Pollution 7
Brownfields 1
Toxic Release Inventory 4

Other community features within defined area:

Schools 5
Hospitals 0
Places of Worship 1

Other environmental data:

Air Non-attainment ..... Yes
Impaired Waters ..... Yes

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... Yes
Selected location contains an EPA IRA disadvantaged community ..... N/A

Report for City: Paulsboro

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	25%	18%	96	20%	90
Heart Disease	6.3	5.6	80	6.1	56
Asthma	11.3	9.5	90	10	84
Cancer	5.7	6.1	39	6.1	39
Persons with Disabilities	16.5%	10.6%	88	13.4%	73

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	11%	59	12%	47
Wildfire Risk	0%	6%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	12%	10%	68	14%	53
Lack of Health Insurance	5%	7%	48	9%	36
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Footnotes

Report for City: Paulsboro

Overburdened Community Stressor Summary

Block Group: 340155004003 **Municipality: Paulsboro Boro** **County: Gloucester** **OBC Criteria: Minority**

Combined Stressor Total	
Block Group Value: Combined Stressor Total	**20**
County	11
State	13
Geographic Point of Comparison	**11**
Adverse Cumulative Stressors	**Higher than 50th Percentile**

Concentrated Areas of Air Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Ground-Level Ozone (3-year average days above standard)	**2.7**	2.3	1.3	**1.3**	**Yes**
Fine Particulate Matter ($PM_{2.5}$) (3-year average days above standard)	**0**	0	0	**0**	**No**
Cancer Risk from Diesel Particulate Matter (estimated cancer risk/million)	**99**	81	95	**81**	**Yes**
Cancer Risk from Air Toxics Excluding Diesel Particulate Matter (estimated cancer risk/million)	**44**	39	40	**39**	**Yes**
Non-Cancer Risk from Air Toxics (Combined Hazard Quotient)	**2.16**	1.8	2.05	**1.8**	**Yes**

Mobile Sources of Air Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Traffic – Cars, Light- and Medium-Duty Trucks (Annual Average Daily Traffic (AADT)-mile/square mile)	**23745**	19757	23623	**19757**	**Yes**
Traffic – Heavy-Duty Trucks (AADT-mile/square mile)	**17**	439	398	**398**	**No**
Railways (rail mile/square mile)	**0.82**	0.0	0	**0**	**Yes**

Contaminated Sites					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Known Contaminated Sites (weighted sites/square mile)	**7.66**	1.08	1.49	**1.08**	**Yes**
Soil Contamination Deed Restrictions (percent area)	**1.15**	0.0	0	**0**	**Yes**
Ground Water Classification Exception Area/Currently Known Extent Restrictions (percent area)	**25.24**	0.0	0	**0**	**Yes**

Transfer Stations, or Other Solid Waste Facilities, Recycling Facilities, Scrap Metal Facilities					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Solid Waste Facilities (sites/square mile)	**0.0**	0	0	**0**	**No**
Scrap Metal Facilities (sites/square mile)	**0.0**	0	0	**0**	**No**

Point-Sources of Water Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Surface Water (percent of uses impaired)	**100.0**	73.42	87.99	**73.42**	**Yes**
Combined Sewer Overflows (count)		NA	NA	**NA**	**No**

May Cause Potential Public Health Impacts					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Drinking Water (count of public drinking water violations or exceedances, or percent of private well testing exceedances)	**0**	NA	NA	**NA**	**0**
Potential Lead Exposure (percent houses older than 1950)	**33.33**	5.71	15.38	**5.71**	**Yes**
Lack of Recreational Open Space (population/acre of open space within 0.25 mile)	**79.88**	21.78	19.14	**19.14**	**Yes**
Lack of Tree Canopy (percent lack of tree canopy)	**90**	66	63	**63**	**Yes**
Impervious Surface (percent impervious surface)	**66**	26	34	**26**	**Yes**
Flooding (Urban Land Cover) (percent urban land use area flooded)	**86**	0	2	**0**	**Yes**

Density/Proximity Stressors					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Emergency Planning Sites (sites/square mile)	**1.68**	0.0	0.05	**0.0**	**Yes**
Permitted Air Sites (sites/square mile)	**1.56**	0.59	0.8	**0.59**	**Yes**
NJPDES Sites (sites/square mile)	**0.25**	0.0	0.0	**0.0**	**Yes**

Social Determinants of Health					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Unemployment (percent unemployed)	**20.0**	3.86	3.7	**3.7**	**Yes**
Education (percent without high school diploma)	**11.82**	4.17	3.59	**3.59**	**Yes**

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Data Source: Environmental Justice (EJ) Law Combined Stressor Summary for New Jersey, published 06/02/2022

Overburdened Community Stressor Summary

Block Group: 340155004004 **Municipality: Paulsboro Boro** **County: Gloucester** **OBC Criteria: Low Income and Minority**

Combined Stressor Total	
Block Group Value: Combined Stressor Total	**17**
County	11
State	13
Geographic Point of Comparison	**11**
Adverse Cumulative Stressors	**Higher than 50th Percentile**

Concentrated Areas of Air Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Ground-Level Ozone (3-year average days above standard)	**2.7**	2.3	1.3	**1.3**	**Yes**
Fine Particulate Matter ($PM_{2.5}$) (3-year average days above standard)	**0**	0	0	**0**	**No**
Cancer Risk from Diesel Particulate Matter (estimated cancer risk/million)	**99**	81	95	**81**	**Yes**
Cancer Risk from Air Toxics Excluding Diesel Particulate Matter (estimated cancer risk/million)	**44**	39	40	**39**	**Yes**
Non-Cancer Risk from Air Toxics (Combined Hazard Quotient)	**2.16**	1.8	2.05	**1.8**	**Yes**

Mobile Sources of Air Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Traffic – Cars, Light- and Medium-Duty Trucks (Annual Average Daily Traffic (AADT)-mile/square mile)	**8839**	19757	23623	**19757**	**No**
Traffic – Heavy-Duty Trucks (AADT-mile/square mile)	**18**	439	398	**398**	**No**
Railways (rail mile/square mile)	**2.6**	0.0	0	**0**	**Yes**

Contaminated Sites					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Known Contaminated Sites (weighted sites/square mile)	**6.7**	1.08	1.49	**1.08**	**Yes**
Soil Contamination Deed Restrictions (percent area)	**0.0**	0.0	0	**0**	**No**
Ground Water Classification Exception Area/Currently Known Extent Restrictions (percent area)	**70.62**	0.0	0	**0**	**Yes**

Transfer Stations, or Other Solid Waste Facilities, Recycling Facilities, Scrap Metal Facilities					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Solid Waste Facilities (sites/square mile)	**0.0**	0	0	**0**	**No**
Scrap Metal Facilities (sites/square mile)	**0.0**	0	0	**0**	**No**

Point-Sources of Water Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Surface Water (percent of uses impaired)	**100.0**	73.42	87.99	**73.42**	**Yes**
Combined Sewer Overflows (count)		NA	NA	**NA**	**No**

May Cause Potential Public Health Impacts					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Drinking Water (count of public drinking water violations or exceedances, or percent of private well testing exceedances)	**0**	NA	NA	**NA**	**0**
Potential Lead Exposure (percent houses older than 1950)	**70.86**	5.71	15.38	**5.71**	**Yes**
Lack of Recreational Open Space (population/acre of open space within 0.25 mile)	**272.93**	21.78	19.14	**19.14**	**Yes**
Lack of Tree Canopy (percent lack of tree canopy)	**83**	66	63	**63**	**Yes**
Impervious Surface (percent impervious surface)	**46**	26	34	**26**	**Yes**
Flooding (Urban Land Cover) (percent urban land use area flooded)	**56**	0	2	**0**	**Yes**

Density/Proximity Stressors					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Emergency Planning Sites (sites/square mile)	**1.89**	0.0	0.05	**0.0**	**Yes**
Permitted Air Sites (sites/square mile)	**1.63**	0.59	0.8	**0.59**	**Yes**
NJPDES Sites (sites/square mile)	**0.31**	0.0	0.0	**0.0**	**Yes**

Social Determinants of Health					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Unemployment (percent unemployed)	**2.54**	3.86	3.7	**3.7**	**No**
Education (percent without high school diploma)	**12.48**	4.17	3.59	**3.59**	**Yes**

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Data Source: Environmental Justice (EJ) Law Combined Stressor Summary for New Jersey, published 06/02/2022

Overburdened Community Stressor Summary

Block Group: 340155004005 **Municipality: None** **County: Gloucester** **OBC Criteria: Not an OBC**

Combined Stressor Total	
Block Group Value: Combined Stressor Total	**17**
Greatest Stressed OBC Neighbor CST Value if applicable	**NA**
County	11
State	13
Geographic Point of Comparison	**11**
Adverse Cumulative Stressors	**Higher than 50th Percentile**

Concentrated Areas of Air Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Ground-Level Ozone (3-year average days above standard)	**0.494**	0.561	0.999	**0.561**	**No**
Fine Particulate Matter ($PM_{2.5}$) (3-year average days above standard)	**0.333**	0.333	0.333	**0.333**	**No**
Cancer Risk from Diesel Particulate Matter (estimated cancer risk/million)	**96.081**	68.632	82.000	**68.632**	**Yes**
Cancer Risk from Air Toxics Excluding Diesel Particulate Matter (estimated cancer risk/million)	**44.553**	33.533	33.994	**33.533**	**Yes**
Non-Cancer Risk from Air Toxics (Combined Hazard Quotient)	**4.591**	1.718	1.841	**1.718**	**Yes**

Mobile Sources of Air Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Traffic – Cars, Light- and Medium-Duty Trucks (Annual Average Daily Traffic (AADT)-mile/square mile)	**0.000**	20199.811	19817.503	**19817.503**	**No**
Traffic – Heavy-Duty Trucks (AADT-mile/square mile)	**0.000**	1262.486	974.211	**974.211**	**No**
Railways (rail mile/square mile)	**0.257**	0.000	0.000	**0.000**	**Yes**

Contaminated Sites					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Known Contaminated Sites (weighted sites/square mile)	**4.383**	0.955	1.417	**0.955**	**Yes**
Soil Contamination Deed Restrictions (percent area)	**1.584**	0.000	0.000	**0.000**	**Yes**
Ground Water Classification Exception Area/Currently Known Extent Restrictions (percent area)	**54.740**	0.000	0.000	**0.000**	**Yes**

Transfer Stations, or Other Solid Waste Facilities, Recycling Facilities, Scrap Metal Facilities					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Solid Waste Facilities (sites/square mile)	**0.130**	0.000	0.000	**0.000**	**Yes**
Scrap Metal Facilities (sites/square mile)	**0.000**	0.000	0.000	**0.000**	**No**

Point-Sources of Water Pollution					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Surface Water (percent of uses impaired)	**82.467**	91.328	92.057	**91.328**	**No**
Combined Sewer Overflows (count)		NA	NA	**NA**	**No**

May Cause Potential Public Health Impacts					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Drinking Water (count of public drinking water violations or exceedances, or percent of private well testing exceedances)	**0**	NA	NA	**NA**	**No**
Potential Lead Exposure (percent houses older than 1950)	**67.265**	4.905	14.725	**4.905**	**Yes**
Lack of Recreational Open Space (population/acre of open space within 0.25 mile)	**153.354**	23.215	19.258	**19.258**	**Yes**
Lack of Tree Canopy (percent lack of tree canopy)	**90.053**	66.735	63.214	**63.214**	**Yes**
Impervious Surface (percent impervious surface)	**43.429**	26.681	34.880	**26.681**	**Yes**
Flooding (Urban Land Cover) (percent urban land use area flooded)	**27.005**	0.408	2.337	**0.408**	**Yes**

Density/Proximity Stressors					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Emergency Planning Sites (sites/square mile)	**0.789**	0.002	0.041	**0.002**	**Yes**
Permitted Air Sites (sites/square mile)	**1.224**	0.577	0.794	**0.577**	**Yes**
NJPDES Sites (sites/square mile)	**0.273**	0.000	0.000	**0.000**	**Yes**

Social Determinants of Health					
Stressor	**Block Group Value**	County Non OBC 50th	State Non OBC 50th	**Geographic Point of Comparison**	**Adverse Stressor**
Unemployment (percent unemployed)	**11.578**	3.341	3.659	**3.341**	**Yes**
Education (percent without high school diploma)	**2.514**	4.088	3.505	**3.505**	**No**

APPENDIX B LIST OF PERMITS AND APPROVALS FOR THE PMT AND THE EEW PROJECT

Required Action Item	Permitting Agency	Environmental Compliance for Previous PMT Development	Environmental Compliance for Action being Proposed
National Historic Preservation Act (NHPA), Section 106 Consultation	New Jersey State Historic Preservation Office	X	No Historic Properties Affected
Waterfront Development and Coastal Zone Management Permit	New Jersey Department of Environmental Protection (NJDEP), Division of Land Resource Protection (DLRP)	X	Original application for 62 acres (DA 1) approved March 17, 2021 and modification approved on March 31, 2023. New application for 23 acres (DA 2) was approved January 20, 2023.
New Jersey Executive Order 215 of 1989 (Environmental Evaluation of Major Construction Projects)	NJDEP	X	Completed 2009 (SJPC 2009).
New Jersey Flood Hazard Area Rules (addressed through waterfront development permit)	NJDEP Division of Land Resource Protection (DLRP)	X	Approved March 17, 2021 for DA 1. Modification approved on March 31, 2023 Approved January 20, 2023 for DA 2
New Jersey Freshwater Wetland Permit	NJDEP DLRP	X	Approved January 20, 2023 for DA2
Air Emissions Permits	NJDEP	N/A	Final air quality permits were issued November 23, 2022
CAA Title V Operating Permit	NJDEP	N/A	To be applied for within 12 months of commencement of facility operation.

Required Action Item	Permitting Agency	Environmental Compliance for Previous PMT Development	Environmental Compliance for Action being Proposed
Summary of Legacy Site Remediation Activities	NJDEP Site Remediation Program	Active remediation complete, long-term groundwater monitoring ongoing.	Remediation for Paulsboro Packaging, Inc.; parcel completed October 2022.
Soil Erosion and Sediment Control Plan	NJDEP	X	Complete for DA 1 and DA 2 as of November 22, 2023.
New Jersey Stormwater Management Permit	NJDEP	X	Approved March 31, 2023
New Jersey State-Protected Species	NJDEP Office of Natural Lands Management	X	Completed as part of the Waterfront Development Permit process on January 20, 2023.
Sewer Connection Approval	Gloucester County Utility Authority	N/A	Approval received on February 3, 2022.
Construction Building Permit	Borough of Paulsboro	X	Received for Phase 1 (2 buildings within 62 acres). Pending for Phase 2 (additional 4 buildings)
Certificate of Occupancy	Borough of Paulsboro	N/A	Received September 2022

APPENDIX C BROWNFIELD REDEVELOPMENT AND REMEDIATION

Figure 6: Brownfield Redevelopment and Remediation