Evergreen Raritan River Mitigation Bank Prospectus

Submitted to:

Interagency Review Team
c/o U. S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278

Submitted by:

Evergreen Environmental, LLC

November 2024

EVERGREEN ENVIRONMENTAL

November 7, 2024

Mr. Christopher Minck (via email)
Regulatory Subject Matter Expert
Operations Division, Regulatory Branch
IRT Chair
U.S. Department of the Army
New York District, Corps of Engineers
Jacob K. Javits Federal Building, Room 1937
New York, New York 10278-0090

Re: Evergreen Raritan River Mitigation Bank
Prospectus

Dear Mr. Minck:

Enclosed please find the above-mentioned Prospectus for a proposed mitigation bank in Middlesex County, New Jersey in accordance with "Compensatory Mitigation for Losses of Aquatic Resources"; Final Rule (33 CFR Parts 325 and 332 and 40 CFR Part 230) of April 10, 2008. This Draft Prospectus is submitted to the U.S. Army Corps of Engineers – New York District (Corps), Chair of the Interagency Review Team (IRT) to formally advance the bank approval process. We would like to request a field meeting with the IRT to introduce the proposed Bank Site in more detail. We look forward to advertisement of the required public notification, response to public comments, if any, and preparation of a Mitigation Banking Instrument.

Please do not hesitate to contact me should you require further information at 973/356-7164 or mrenna@evergreenenv.com.

Sincerely,
EVERGREEN ENVIRONMENTAL, LLC

Mark Renna
President

\enclosure

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

1.1 Objectives of the Proposed Mitigation Bank – 33 CFR 332.8 d-2(i)

The Evergreen Raritan River Mitigation Bank (the "Bank" or "Bank Site") is proposed to serve permitted impacts located within its proposed Service Area, discussed in more detail below. This Prospectus is presented in accordance with the requirements for a Prospectus as detailed in "Compensatory Mitigation for Losses of Aquatic Resources; Final Rule", 33 CFR Parts 325 and 332 and 40 CFR Part 230 as amended on April 10, 2008.

The Sponsor, Evergreen Environmental, LLC ("Evergreen" or "Sponsor"), proposes to develop the Bank Site, which is located along the southern bank of the Raritan River in the Borough of Sayreville, Middlesex County, New Jersey, a portion of a region long recognized as a valuable resource within the New York/New Jersey Harbor, Hudson Raritan Estuary (HRE) area. Evergreen is requesting the Interagency Review Team (IRT) review and comment on this Prospectus to establish the Bank.

Based upon field observations, the Bank Site, which is a known Confined Disposal Facility ("CDF") location, presently consists of dense monotypic stands of *Phragmites* australis ("*Phragmites*") throughout the site within an elevated berm, as well as mudflats and emergent marsh with *Spartina alterniflora* on the fringe of the Raritan River. (See Figure 1.1 and 1.2 in Attachment 1 and Photographs in Attachment 2). Within the interior of the Bank Site, a large portion of the area west of the berm appears to be *Phragmites* dominated freshwater wetlands that retain water due to the elevated berms, remnants of the CDF operations conducted at the Bank Site, and potentially a restricted layer of clay below the surface both of which prevent the area from draining. This has likely led to ponding of water and a high-water table, especially near the western berm.

Moving east across the western portion of the Bank Site the soil appears to retain less water and does not support a wetland community as evidenced by facultative upland species such as staghorn sumac, common mullein (*Verbascum thapsus*), and eastern red cedar (*Juniperus virginiana*).

In addition, the berm around the Bank Site is dominated by *Phragmites* along with eastern baccharis (*Baccharis halimifolia*), and empress tree (*Paulownia tomentosa*), northern bayberry (*Morella pensylvanica*), multiflora rose (*Rosa multiflora*), sweet gum (*Liquidambar styraciflua*), northern catalpa (*Catalpa speciosa*), fall panicum (*Panicum dichotomiflorum*). On the eastern portion of the Bank Site, the interior of the berm appears to be *Phragmites*-dominated freshwater wetlands and a small patch of upland forest dominated by gray birch (*Betula populifolia*).

The habitat value of the Bank Site is diminished by fill and the colonization of the invasive common reed *Phragmites*, which covers the wetland portions of the Bank Site in monotypic stands. The habitat value of the proposed Bank Site could be improved with the removal of fill, establishment of native vegetation and increased tidal flow.

The Bank Site is a 34.01-acre parcel identified as Block 228, Lots 1 and 2 and Block 229, Lot 1.03 on the tax maps of the Borough of Sayreville, Middlesex County, New Jersey. EREH, LLC, a wholly owned subsidiary of Evergreen Environmental, LLC currently has a contracted option to purchase the Bank Site. (See Survey - Figure 1.3 in Attachment 1). The Sponsor will be the owner and operator of the Bank. Sayreville Boulevard runs to the South of the parcels. There are vacant plots of land neighboring the Bank Site to the east and west. Riverview Drive and several residential properties are also located to the east. Adjacent to the Bank Site to the west, a tributary

tidal creek of the Raritan River runs north to south (Figure 1.4 in Attachment 1). The goal of the Bank Site is to enhance, restore and preserve approximately 33 acres of degraded wetlands and uplands. The habitat value of the Bank Site will be improved with the removal of fill, establishment of native vegetation and increased tidal flow.

The Bank Site would provide wetland mitigation for permitted projects and potentially for unauthorized violations within the approved Service Area, shown in Figure 1.5: Service Area Map in Attachment 1.

The establishment of the mitigation Bank and the restoration of native wetland species will be consistent with several existing watershed planning initiatives, including:

1. The Hudson Raritan Estuary (HRE) Comprehensive Restoration Plan – The USACE and the Port Authority of New York and New Jersey are developing a comprehensive plan to restore the degraded habitat within the HRE. One of the Target Ecosystem Characteristics for the plan is the restoration and/or creation of Coastal Wetlands within the HRE by 2050.

2. The Sustainable Raritan River Initiative – a joint program of Rutgers' Edward J. Bloustein School of Planning and Public Policy and the School of Environmental and Biological Science, works with various stakeholders around the Raritan Basin and Bay to balance social, economic and environmental objectives towards the common goal of restoring the Raritan River, its tributaries and its estuary for current and future generations.

3. The Lower Raritan Watershed Partnership - the Lower Raritan Watershed Partnership's (LRWP) goal is to restore, enhance, and conserve, the natural resources of "New Jersey Watershed Management Area 9 (WMA-9; the Lower Raritan Watershed) through science-based stewardship, education and innovation.

Nearby restored marshes include the Port Reading Mitigation Bank and the Pine Creek Mitigation Site.

The establishment of a mitigation bank in this region is not only consistent with existing restoration initiatives but will help to improve the overall value of the region's habitat by contributing to a large expanse of connected fish and wildlife habitat.

The following sections of this Prospectus describe the existing and proposed conditions of the Bank Site as required pursuant to the Federal Rules of 2008.

1.2 How the Mitigation Bank or In-Lieu Fee Program will be Established and Operated - 33 CFR 332.8 d-2 (ii)

The Bank is proposed in accordance with the Federal Rules; "Compensatory Mitigation for Losses of Aquatic Resources"; Final Rule (33 CFR Parts 325 and 332 and 40 CFR Part 230) of April 10, 2008. This Bank will provide mitigation for impacts to aquatic resources including impacts to wetlands.

The Bank will be developed in accordance with the following Federal and State authorities and implemented to provide aquatic resource mitigation including mitigation for regulated impacts to waters of the U.S., and wetlands as regulated by the Corps and NJDEP.

- Section 404 of the Clean Water Act (33 U.S.C. § 1344)
- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403)
- Section 404(b)(1) Guidelines for Specification of Disposal Sites for dredged or Fill Material (40 C.F.R. Part 230)
- Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)
- Regulatory Program Regulations of the U.S. Army Corps of Engineers, Final Rule (33 CFR Parts 320-332)
- Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under the Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990)
- Magnuson-Stevens Fishery Conservation and Management Act, P.L. 94-265
- Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. § 1531 et seq.)
- New Jersey Waterfront Development Law (N.J.S.A. 12:5-1 et seq.)
- New Jersey Freshwater Wetlands Protection Act of 1987 (N.J.S.A. 13-9B-1 et seq.)
- New Jersey Coastal Zone Management Rules (N.J.A.C. 7:7E-1.1 et seq.)
- New Jersey Tidelands Act, N.J.S.A. 12:3

The Sponsor will establish, operate, and maintain the restored tidal wetland, open water and upland habitat in accordance with the provisions of a Mitigation Banking Instrument (MBI), as well as a Corps' Nationwide Permit 27 and applicable State permits.

Mitigation credit valuation and generation is based upon functional value uplift proposed at the Bank Site and regulatory precedent. The functional value uplift is based on the differential between the value of the site in current baseline condition, the effect of the specific mitigation design, and the resultant ecological uplift from existing baseline conditions. The final determination of the number and type of credits the Banks will be approved for will be made by the IRT, which often bases credit ratios on ecological factors, policy and regulatory dictates and precedent established at other mitigation banks and sites in the State.

1.2.1 Mitigation Valuation Summary

A mitigation credit is defined as the amount of mitigation required to offset one acre of impact. Credit generation is based on the difference in the value of the site in the current baseline condition, and the conditions anticipated based upon the mitigation design, as well as the ecological uplift from existing baseline conditions and regulatory definitions of mitigation. Quantification of credits is determined by the IRT who often base credits and credit to acre ratios on wetland functions, values and services augmented, ecological factors, policy and regulatory dictates as well as precedent established at other mitigation banks and sites in the State.

It is proposed that the credits will be available to be used as mitigation in accordance with applicable requirements. One (1) credit from the Bank would mitigate for one (1) typical acre of authorized wetland impact. Permitted projects proposed to utilize bank credits will be submitted to the Corps and/or NJDEP for consideration in conjunction with the permitting for such projects. The Sponsor will submit a statement to the IRT each time credits are debited or additional credits are approved.

Upon submittal of all appropriate documentation by the Sponsor and subsequent approval by the Corps and NJDEP in consultation with the IRT, it is agreed that credits will become available for use by the Sponsor for sale to approved permittees.

- **Credit Valuation**

Current and historical use of the Bank Site has been intensive involving substantial human induced alterations of the historical tidal marsh habitat. The Bank Site is a dredged material spoil area developed by the US Army Corps of Engineers pursuant to reports as recent as 2021:

U.S. Army Corps of Engineers
June 2021
Former Raritan Arsenal – Dredge Spoil Area 5 June 2021
PROPOSED PLAN FORMER RARITAN ARSENAL DREDGE SPOIL AREA 5
FUDS PROJECT NO. CO2NJ008403
MIDDLESEX COUNTY, NEW JERSEY

Such sites are commonly referred to as Confined Disposal Facilities (CDF). The Bank Site is a portion of a dredged spoil area encompassing 228 acres. This formerly used defense site (FUDS) was assessed in 2021 by the Corps and NJDEP and determined to not pose a risk to the environment and as a result no further action is proposed by the Corps.

Pursuant to the 2021 plan the historical and current use of the Bank Site is as excerpted below:

This proposed plan provides information to the public regarding investigations of munitions at Dredge Spoil Area (DSA) 5 in the Borough of Sayreville, New Jersey performed as part of the U.S. Army Corps of Engineers (USACE)'s investigation of the Former Raritan Arsenal (FRA) Munitions Response Site (MRS) located in Middlesex County, New Jersey.

DSA 5 comprises approximately 228 acres of land located on the south shoreline of the Raritan River. The area is underlain by dredge spoils that were removed from the Raritan River and deposited during historical dredging operations.

The DSA is mostly undeveloped wetland, with the exception of the south-central margin, which contains roads and residential housing units. Historical records indicate that up until approximately 1956 material from dredging was disposed of within the property boundary.

Historical maps show that the permitted limits of dredge disposal extended along the south shoreline of the Raritan River and refer to this as Area H (86th Congress, 2nd Session. House Document No. 435. 1960). Area H is now identified as DSA 5. In 1975 USACE increased the depth of the Raritan River adjacent to Area 13 and the dredge spoils from this project were most likely placed within Areas 11, 12, 14, or the "Spoils Area," which is an 8-acre parcel of land located within the northeast portion of DSA 5. See Figure 1.6 below.

Figure 1.6. Dredge Spoil Area 5 Site Features

As a result, this DSA, or as referenced in more recent terminology as a CDF, is a bermed parcel of land containing dredged material excavated from the Raritan River. Removal of the dredged material and restoration of the historical tidal marsh is the overall wetland restoration objective of the Bank. Based upon this approach Evergreen proposes the following credit valuation for the Bank Site:

Table 1. Proposed Credit Valuation Based Upon Proposed Concept Plan

Mitigation Category	Acres	Ratio	Credits
Open Water/Mudflat Creation	1.87	2 :1	0.94
Tidal Marsh Enhancement - Above MHW	2.11	2 :1	1.06
Tidal Marsh Enhancement - Below MHW	1.18	3 :1	0.39
Tidal Marsh Restoration Reestablishment - Above MHW	4.60	1 :1	4.60
Tidal Marsh Restoration Reestablishment - Below MHW	1.23	1 :1	1.23
Tidal Marsh Restoration Rehabilitation - Above MHW	7.87	2 :1	3.94
Tidal Marsh Restoration Rehabilitation - Below MHW	2.29	2 :1	1.15
Upland Enhancement	1.21	6 :1	0.20
Preservation	9.12	27 :1	0.34
Easements	2.62	N/A	0.00
TOTAL	**34.10**		**13.83**

1.2.1.1 Regulatory Background

Mitigation valuation by the U.S. Army Corps of Engineers and Environmental Protection Agency (Final Rule, 2008) and the New Jersey Department of Environmental Protection (N.J.A.C. 7:7A and 7:7) is intended to be based on the functional value assessment of the ecological uplift that a mitigation project has from its baseline to proposed enhanced conditions on a case-by-case basis. However, in some cases in the past, the credit calculation has been largely based on mitigation ratios based on regulatory precedent.

The 2008 Final Rule established that the district engineer must require a mitigation ratio *"greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site."* The rationale for the required replacement ratio must be documented in the administrative record for the permit action (40 CRF 230.93(f)(2)).

State regulations have also similarly established that the ratio for enhancement of wetlands is determined on a case-by-case basis; If enhancement is the mitigation alternative, the Department shall determine, on a case-by-case basis, the amount of enhancement required to ensure that the mitigation results in wetlands of equal or better functions and values to those lost (N.J.A.C 7:7A-11.12(d) and N.J.A.C 7:7-17.13(c)).

1.2.1.2 Regulatory Precedent

A specific example worthy of consideration by the IRT when determining the credit valuation of the Raritan River Mitigation Bank is the 108-acre Evergreen Great Bay Mitigation Bank, located in Bass River, Burlington County, New Jersey. Great Bay is both state and federally approved, and is a former CDF, once associated with the original construction of the Garden State Parkway in the 1950's. As noted above, the Raritan River Mitigation Bank is also a CDF site. The Great Bay Bank contained berms installed of the part of the CDF operations which restricted tidal flow to the site, resulting in the interior of the site being dominated by predominately a dense

monoculture of *Phragmites*. The Raritan River Bank Site also contains berms related to the former CDF operations that have restricted tidal flow foster the abundant development of *Phragmites*. In the case of Great Bay, the IRT recognized the significant ecological value that would be gained from the conversion of a former CDF site to a mitigation bank.

The Evergreen Great Bay Mitigation Banking Instrument, approved and signed by the Army Corps of Engineers Philadelphia District on January 26, 2018, states in relevant part that:

In summary, the CDF on the Bank Site was once a natural tidal marsh, and the mitigation design proposes to make it so again by restoring hydrology, soils, and vegetation that are normal to the marsh. The proposed banks site has been subjected to abrupt and long term CDF conversion that degraded all three (3) parameters of a functioning wetland system in the tidal marshes of New Jersey. The mitigation design has the potential to restore all three wetland parameters to their original, pre-CDF and natural state to return the site to a significant contributing component of the Mullica River estuary.

Although these words were written about the Evergreen Great Bay Mitigation Bank, it would be undeniably appropriate to echo them when describing the proposed actions associated with the development of the Evergreen Raritan River Mitigation Bank.

Recognizing the significant ecological improvement that the restoration of the CDF area, through the creation of the Great Bay Bank, would add to the surrounding environment both on site and regionally, the IRT granted Evergreen the following mitigation credit valuation for the Evergreen Great Bay Mitigation Bank:

Table 2. Evergreen Great Bay Mitigation Bank Credits per MBI

Mitigation Category	Ratio	Acres	Credits
Estuarine Wetland Restoration (Reestablishment)	1 :1	1.03	1.03
Estuarine Open Water/Mudflat Restoration (Reestablishment)	1 :1	0.06	0.06
Estuarine Wetland Restoration (Rehabilitation)	2 :1	44.03	22.02
Estuarine Open Water/Mudflat Restoration (Rehabilitation)	2 :1	1.64	0.82
Estuarine Tidal Wetland Preservation	27 :1	8.66	0.32
Palustrine Wetland and Upland Preservation	27 :1	50.03	1.85
Powerline Alignment	0 :0	2.75	0.00
Mitigation Bank Total		**108.20**	**26.10**

1.2.1.3 Application to the Raritan River Mitigation Bank Site

Similar to Great Bay, restoration of the Bank Site will entail the conversion of a CDF site to a functionally valuable restored tidal marsh through *Phragmites* removal, excavation to lower grades to permit tidal exchange, and planting with native plant species. The design will excavate to a depth of a foot below design elevation and then backfill to marsh plain design elevation with imported clean material as a planting cap. Once restored, the Bank will be a combination of emergent marsh of varying elevations designed to take into account predicted sea level rise, open water, and mudflat habitat, generally exposed twice a day during the tidal cycle, and upland buffer habitat.

Adopting the precedent set by the Federal and State agencies during the approval of the Great Bay Bank and applying that precedent to the proposed Raritan River Bank Site represents a viable approach to determining ecological uplift and calculating mitigation credits. As tabulated in Table 1 above, utilizing this precedent-based approach Evergreen proposes that the Bank should be awarded 13.77 credits.

1.2.1.5 Conclusion

The Bank is proposed to generate mitigation credits as detailed in Table 1 above. Credits have been quantified based on mitigation ratios, and agency precedent.

The predominant wetland mitigation category in the Bank is restoration/rehabilitation of tidal marsh with some areas of restored mudflat. The restoration activity is conducted pursuant to the federal definition of restoration as per the federal rules of 2008 as follows:

"Restoration means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.

At the State level restoration is valued per the Rules as follows:

N.J.A.C. 7:7 COASTAL ZONE MANAGEMENT RULES
7:7-17.1 Definitions
"Restoration" means:
1. The reestablishment of wetland, submerged vegetation habitat, tidal water, and/or intertidal and subtidal shallows characteristics and functions in an area that was once a wetlands and/or intertidal and subtidal shallows but is no longer; or
2. The reversal of a temporary disturbance and the reestablishment of the functions and values of the wetlands and/or intertidal and subtidal shallows that was temporarily disturbed.

Please note the "or" between clauses 1 and 2 above. Restoration is not limited to only former wetlands that are currently upland. Restoration includes the reversal of disturbance to land that is currently jurisdictional wetland and the reestablishment of functions and values to restore the wetland to its former condition. The wetland mitigation at the Raritan River Bank Site meets the state definition of restoration as defined in 7:7-17.1.

7:7-17.13 Requirements for wetlands mitigation
(a) This section sets forth the requirements that apply to a wetlands creation, restoration, or enhancement mitigation project.
(b) If creation or restoration is the mitigation alternative, wetlands shall be created or restored at a creation or restoration to lost or disturbed ratio of 2:1, unless the applicant demonstrates in accordance with (b)1 below that creation or restoration at a ratio of less than 2:1 will provide equal ecological functions and values.

Please note, a 2:1 ratio for restoration is supported by state rules as follows.

1. *A mitigator may create or restore wetlands at a ratio of less than 2:1 if the mitigator demonstrates through the use of productivity models or other similar studies that restoring or creating a lesser area of wetlands will result in replacement wetlands of equal ecological*

> *value to those lost or disturbed. However, in no case shall the Department approve a ratio of less than 1:1. In order to demonstrate equal ecological value, the mitigator shall survey and provide written documentation regarding, at a minimum, existing soil, vegetation, water quality functions, flood storage capacity, soil erosion and sediment control functions, and wildlife habitat conditions and detail how the mitigation proposal will replace the ecological values of the wetlands lost or disturbed.*

Please note the rules permit a ratio lower than 2:1, as low as 1:1, if supported by documentation and demonstration of ecological values as is presented herein.

- **Estuarine Wetland Restoration/Re-establishment 1:1**

Wetland restoration/re-establishment entails the conversion of manmade upland areas to wetland resulting in a net gain of wetland acreage, function and value. The Bank contains uplands which are the result of historical manmade activities at elevations above tidal inundation including CDF dikes. The removal of tidal restrictions and the lowering of upland elevations to the tidal inundation range will serve to return wetlands where they once existed. A 1:1 ratio is proposed consistent with the net gain of wetland acreage and replacement of normal conditions, restoration of lost functions and values, regulatory applications, and precedent at many wetland mitigation sites and banks in the state. The mitigation design concept results in a net gain of several acres of wetlands at the Bank Site.

- **Estuarine Open Water/Mudflat Restoration/Re-establishment 1:1**

Wetland restoration/re-establishment entails the conversion of manmade upland areas to wetland resulting in a net gain of wetland acreage, function and value. The Bank contains uplands which are the result of historical manmade activities at elevations above tidal inundation including CDF dikes. The removal of tidal restrictions and the lowering of upland elevations to the tidal inundation range will serve to re-create wetlands where they once existed. A 1:1 ratio is proposed consistent with the net gain of wetland acreage and replacement of normal conditions, restoration of lost functions and values, regulatory applications, and precedent at many wetland mitigation sites and banks in the state. The mitigation design concept results in a net gain of several acres of wetlands at the Bank Site.

- **Estuarine Wetland Restoration/Rehabilitation 2:1**

The predominant wetland mitigation category in the Bank is restoration/rehabilitation of former tidal marsh that was impaired by the construction of the CDF. The restoration activity is conducted pursuant to the federal definition of restoration as per the federal rules of 2008 as follows:

"Restoration means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.

- Re-establishment means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

- Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area."

The 2:1 ratio for wetland restoration/rehabilitation is based on the Bank Site's history of severe hydrologic alteration by the CDF, wetland degradation and the potential of the Bank to directly replace lost wetland functions and services on a 2:1 basis; qualitatively as well as quantitatively. The wetlands of the Bank Site today are tidally restricted and only function as wetland because they exist behind berms that serve to create an impounding effect from runoff. The artificial hydrologic regime of the Bank Site results in a freshwater regime vegetated with invasive *Phragmites*. However, even as a jurisdictional freshwater wetland, interaction with the watershed is curtailed as a result of the CDF berm. As a result, wetland functions and services such as water quality improvement, flood storage, wildlife and fish habitat are limited and separated from the Raritan River.

Indirectly the restoration has the potential to restore tidal flow connectivity with the adjacent marshes and waterways improving finfish habitat and nutrient exchange and thereby restoring wetland functions and values to adjacent marshes beyond the Bank limits.

The 2:1 ratio for restoration/rehabilitation is based on assessment of the Bank Site's current degraded condition and an assessment of the future restored condition. Evergreen proposes to restore the hydrology to the Bank through the removal of the existing berms and fill. As a result, the Bank Site will become a restored wetland from its current condition as a degraded, isolated wetland dependent on freshwater impounded hydrology.

The restoration/rehabilitation of the Bank Site has a high probability of successfully restoring the tidal marsh as removal of the tidal restrictions and excavation of the Bank Site to tidal inundation range is highly feasible with adjacent sources of tidal hydrology readily available. On an acre-for-acre quantitative basis, the Bank has the potential to result in restoration and replacement of lost wetlands in the service area on an acre-for-acre basis; however the 2:1 mitigation ratio reflects the regulatory classification of the impounded wetlands on-site and the restoration of these wetlands to functioning tidal wetlands.

- **Estuarine Open Water/Mudflat Restoration/Rehabilitation 2:1**

The predominant wetland mitigation category in the Bank is restoration/rehabilitation of tidal marsh to normal conditions. The 2:1 ratio for wetland restoration/rehabilitation is based on the site's history of severe hydrologic alteration, wetland degradation and the potential of the Bank to directly replace lost wetland functions, values and services on a 2:1 basis; qualitatively as well as quantitatively. The wetlands of the Bank Site today are tidally restricted and only function as wetland because they exist behind CDF berms that serve to create an impoundment. The artificial hydrologic regime of the Bank Site results in a freshwater regime vegetated with invasive *Phragmites*. However, even as a jurisdictional freshwater wetland, interaction with the watershed is curtailed as a result of the berms. As a result, wetland functions and services such as water quality improvement, flood storage, wildlife and fish habitat are limited and separated from the Raritan River.

The 2:1 ratio for restoration/rehabilitation is based on assessment of the Bank Site's current degraded condition and an assessment of the future restored condition. Evergreen proposes to restore the hydrology to the Bank through the removal of the existing berms. As a result, the Bank Site will become a restored wetland from its current condition as a degraded, isolated wetland dependent on freshwater impounded hydrology.

The restoration/rehabilitation of the Bank Site has a high probability of successfully restoring the tidal marsh as removal of the tidal restrictions and excavation of the Bank Site to tidal inundation range is highly feasible with adjacent sources of tidal hydrology readily available. On an acre-for-acre quantitative basis, the Bank has the potential to result in restoration and replacement of lost wetlands in the service area on an acre-for-acre basis; however the 2:1 mitigation ratio reflects the regulatory classification of the impounded wetlands on-site and the restoration of these wetlands to functioning tidal wetlands.

Preservation 27:1

Several areas of the Bank Site are to remain and will serve as a preserved protected buffer. These extant habitats will be protected under a conservation deed restriction in perpetuity. These preservation areas are valuable in and of themselves, but could be subject to development threat by a future landowner or easement holder such as a utility. Both the NJDEP and federal policy and rules recognize the mitigation value of preservation. The preservation proposed on-site meets all of the requirements as stated in the federal rules.

In conclusion, the Raritan River Mitigation Bank warrants the credits detailed in Table 1 based on, variety of marsh elevations, variety of marsh plant species, benefits to the greater watershed, regulatory rules and precedent at other mitigation sites and banks in New Jersey.

1.3 The Proposed Service Area - 33 CFR 332.8 d-2 (iii)

The proposed Service Area is depicted on Attachment 1, Figure 1.5. Located in Hydrologic Unit Code (HUC) HUC-11 020-30-105, the tidal Lower Raritan River. This HUC watershed is comprised of an assemblage of sub-watersheds (HUC 14), all or a portion of which fall in the Raritan River Lower (below Lawrence) Watershed (HUC11). The Bank Site is also located in the HUC-8 020-30-104 of the Raritan Bay drainage. The proposed Service Area includes HUC-11 hydrologic unit code watershed numbers as follows:

020-30-104-010
020-30-104-020
020-30-104-030
020-30-104-050
020-30-104-060
020-30-104-070
020-30-104-080
020-30-104-090
020-30-104-100
020-30-104-910
020-30-104-920
020-30-104-930
020-30-105-120

020-30-105-160 (Bank Location)

In the proposed Service Area, the mitigation credits from the Bank will be used to mitigate for impacts to estuarine and palustrine emergent, mudflat, scrub/shrub and open water wetlands and waters of the U.S. Only the mitigation credits from the forest preservation areas will be used to mitigate for impacts to palustrine forested wetlands.

Ecologically, the tidal waters of the Raritan River vicinity are all interconnected and, as such, the region is often addressed and referred to as the Hudson Raritan Estuary (HRE) and Atlantic Coast Water Region. The region is the subject of many studies specifically related to ecosystem interrelatedness and restoration (New York Corps HRE, 2020). Ecologically, these waters flow upstream and downstream supporting aquatic biota ranging in and throughout the region as seasonal or permanent residents. As a tidal mitigation bank, subjected to the ebb and flow of waters bi-directionally both downstream as well as upstream, the Bank Site is interconnected to the greater watershed by geography as well as water interchange and interaction in a manner far greater than a palustrine mitigation site where water flow is unidirectional.

1.3.1 Service Area Supporting Documentation

Pursuant to the federal rules, the Raritan River Mitigation Bank Service Area is predicated on a watershed approach to delineate the limits of the service area. This Service Area is substantially based on Hydrologic Unit Codes (HUC) and Watershed Management Areas (WMA) watershed designations. The Service Area includes Raritan, Bay, the Arthur Kill, Newark Bay and the Atlantic Coastal Region of Middlesex County or Watershed Management Area 9 (WMA-9).

1.3.2 No Mitigation Banks and Isolated HUC Subwatershed Justification

The proposed Bank Service Area is proposed to serve an area where there are no federal or tidal mitigation banks. There are no federal mitigation banks in the vicinity and there are none planned. The southern limit of the proposed Service Area forms the New York District border with the Philadelphia District. As a result, the southern HUC-11's of the Raritan River Mitigation Bank proposed Service Area are proposed to serve underserved subwatersheds at the interface between the New York and Philadelphia Districts.

1.3.3 Federal Mitigation Bank Precedent Justification

The proposed Raritan River Mitigation Bank proposed Service Area is similar to other federal mitigation bank service areas in the state. Other federal, tidal marsh mitigation banks in New Jersey include Stipson's Island, Port Reading, MRI3, Abbot Creek and Great Bay. All of these mitigation banks encompass estuarine service areas composed of HUC-11 unit codes to reflect the regional estuarine watershed.

The unfortunate, but ecologically constraining, realities of wetland mitigation in the tidal zones of northern New Jersey are heavy development pressure, land costs, and few remaining site locations. As a result, areas of Newark Bay, Arthur Kill, lower Raritan River, Raritan Bay are all in need of mitigation options but possess limited mitigation areas, if any, that are viable. Beyond the defining interconnectedness of the estuary, the Bank Site could serve to provide mitigation options for permitted developments in industrial and contaminated subwatersheds. In reality, such

impacts are often fractional components of acres or square feet and mitigation is unfeasible and undesirable in the form of onsite, postage stamp-sized, mitigation sites as compared to mitigation concentrated in a larger, contiguous, protected mitigation site or bank such as Raritan River. Ecologically, such mitigation has a much higher potential to be successful and properly replace ecological functions, values and services lost in the watershed from fractional acre impacts scattered throughout the watershed.

In relevant part, the federal rules detail the approach to service area designation for both mitigation banks and in lieu fee programs (33 C.F.R. § 332.8 Mitigation banks and in-lieu fee programs) as follows:

All mitigation banks and in-lieu fee programs must comply with the standards in this part, if they are to be used to provide compensatory mitigation for activities authorized by DA permits, regardless of whether they are sited on public or private lands and whether the sponsor is a governmental or private entity.

(c) Compensation planning framework for in-lieu fee programs.

(1) The approved instrument for an in-lieu fee program must include a compensation planning framework that will be used to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities. The compensation planning framework must support a watershed approach to compensatory mitigation. All specific projects used to provide compensation for DA permits must be consistent with the approved compensation planning framework. Modifications to the framework must be approved as a significant modification to the instrument by the district engineer, after consultation with the IRT.

(2) The compensation planning framework must contain the following elements:

(h) The geographic service area(s), including a watershed-based rationale for the delineation of each service area

1.3.4 Mitigation Bank Service Area Precedent New York District

The Raritan River Mitigation Bank proposed Service Area is also based on the service areas of other tidal, federally approved mitigation banks in the New York District. We note that service areas for many existing federal banks include watershed drainages whose names include a variety of rivers and bays and oceans, not all precisely a single named waterbody or the same waterbody, but of course interconnected hydrologically.

- **Saw Mill Creek Mitigation Bank**

We also note the USACE is the chair of the Saw Mill Creek Mitigation Bank IRT composed of many of the same team members. The Saw Mill Creek Bank, located on Staten Island has been awarded a service area based on HUC-6 units, units much larger than HUC-8 units, including watersheds of different names, such as Lower Hudson (020301) and Long Island (020302) (see Figure 1.7 below). The Raritan River Mitigation Bank proposed Service Area contains waters and a watershed that are far closer in proximity and interrelatedness and of a much smaller areal extent.

Figure 1.7. Saw Mill Creek Mitigation Bank Service Area Map

1.3.5 Regional Wildlife Watershed Utilization

The Raritan River Mitigation Bank service area is documented to be used by special status wildlife species (Table 3). The proposed Bank is within the habitat range of several protected wildlife species with the potential to utilize the Bank Site area as well as all portions of the proposed Service Area as part of their home and seasonal ranges. Coordination with the NJDEP's Natural Heritage Program indicates that the emergent wetlands on the Bank Site proper can provide habitat for many of these species, including the bald eagle (Haliaeetus leucocephalus; NJ-endangered), glossy ibis (*Plegadis falcinellus*; NJ-special concern [SC]), osprey (*Pandion haliateus*; NJ-threatened), snowy egret (*Egretta thula*; NJ-SC), and yellow-crowned night heron (*Nyctanassa violacea*; NJ-threatened).

Table 3. Summary of Threatened, Endangered or Special Concern or Tracked Species or Habitat at and within One Mile of the Evergreen Raritan River Mitigation Bank

Common Name	Scientific Name	Status[1]	Feature Type
At the Project Site			
Bald Eagle	*Haliaeetus leucocephalus*	State Endangered	Foraging
Glossy Ibis	*Plegadis falcinellus*	Special Concern	Foraging
Osprey	*Pandion haliateus*	State Threatened	Nest
Snowy Egret	*Egretta thula*	Special Concern	Foraging
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	Foraging
Immediate Vicinity of the Project Site			
Bald Eagle	*Haliaeetus leucocephalus*	State Endangered	Foraging
Glossy Ibis	*Plegadis falcinellus*	Special Concern	Foraging
Northern Harrier	*Circus cyaneus*	State Endangered	Breeding Sighting
Osprey	*Pandion haliateus*	State Threatened	Nest/Foraging
Snowy Egret	*Egretta thula*	Special Concern	Foraging
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	Foraging
Within One Mile of the Project Site			
Bald Eagle	*Haliaeetus leucocephalus*	State Endangered	Foraging
Glossy Ibis	*Plegadis falcinellus*	Special Concern	Foraging
Little Blue Heron	*Egretta caerulea*	Special Concern	Foraging
Northern Harrier	*Circus cyaneus*	State Endangered	Nest/ Non-Breeding Sighting
Osprey	*Pandion haliateus*	State Threatened	Nest/Foraging
Snowy Egret	*Egretta thula*	Special Concern	Foraging
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	Foraging/Nesting Colony
Source: NJDEP Natural Heritage Program consultation dated March 5, 2024. Rare Wildlife Species or Wildlife Habitat on the Project Site and within One Mile of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches.			

Based on state and federal wildlife databases, several species of special status wildlife inhabit the Bank Site, vicinity and regional watershed. Many of these species are highly mobile and have the potential to utilize multiple and divergent habitats of the proposed Service Area on a daily and seasonal basis. Such utilization supports the interrelatedness and interdependence of the wildlife to the resources, wetland, aquatic and otherwise, to the mitigation bank and the HUC units encompassed by the proposed Service Area.

1.3.6 Conclusion

In conclusion, the proposed Service Area for the Raritan River Mitigation Bank is all part of the same estuary and the same water region, typical service area watershed parameters employed by the USACE and NJDEP. Located along the lower tidal portion of the Raritan River, the Bank

is ideally situated to serve impacts in and around the lower Raritan River, Raritan Bay, Arthur Kill, Newark Bay and the Atlantic Coastal Region of Middlesex County.

The Evergreen Raritan River Mitigation Bank proposed Service Area is supported based on a watershed based approach taking in to consideration the interconnectedness of this unique tidal estuary as enumerated:

- **Hydrologic Unit Code Justification.** The Sponsor proposes the Service Area include those areas of HUC watershed in New Jersey as a service area unit supported by the federal rules and the USACE.

- **No Mitigation Banks and Isolated HUC Subwatershed Justification.** The southern HUC-11's of the proposed Bank Service Area are proposed to serve underserved subwatersheds at the interface between the New York and Philadelphia Districts.

- **Federal Mitigation Bank Precedent Justification.** Federal mitigation banks in New Jersey have services areas of HUC-8s with HUC-11 subwatersheds to reflect the estuary within which the tidal federal mitigation banks exist.

- **Mitigation Bank Service Area Precedent New York District.** Mitigation banks in New York and New Jersey, especially those of the estuarine tidal zones, have approved service areas incorporating HUC designations as proposed for the Raritan River Mitigation Bank.

- **Regional Wildlife Watershed Utilization.** Threatened, Endangered and Special Concern wildlife utilization supports the interrelatedness and interdependence of the wildlife to the resources, wetland, aquatic and otherwise, to the Bank and the HUC units encompassed by the proposed Service Area.

Evergreen proposes the Service Area of the Evergreen Raritan River Mitigation Bank be approved as proposed based on the ecological and hydrological arguments presented.

1.4 The General Need for and Technical Feasibility of the Proposed Mitigation Bank

There is a general need for wetland mitigation along the lower Raritan River and in and around Raritan Bay region inclusive of the Arthur Kill and Newark Bay especially since the Port Reading Mitigation Bank closed. Limited mitigation is available for permitted projects in the region as there are no mitigation banks. The proposed Bank is technically feasible and incorporates design concepts applied successfully to other mitigation sites in the state over the past several decades. The concept entails the lowering of site elevations, some filled as a result of man-made activities. The earthwork and hydrologic impediment removal will restore tidal flow and exchange. Non-native invasive species currently dominating the Bank Site, including *Phragmites*, will be treated with herbicides and native plantings will be introduced to restore the wetland habitat.

The concept described above has been implemented on many tidal restoration sites in the state and is proven to be technically feasible. The most relevant examples are the Evergreen MRI3 Mitigation Bank, Evergreen Great Bay Mitigation Bank, Port Reading Mitigation Bank, Stipson's

Island Mitigation Bank, all approved, built and planted and have met success criteria for credit release.

1.4.1 Mitigation Design Development

Restoration of the Bank Site will entail *Phragmites* removal, excavation to lower grades to permit tidal exchange, and planting with native plant species. The design will excavate to a depth of a foot below design elevation and then backfill to marsh plain design elevation with imported clean material as a planting cap. Excavated material will be disposed of at a soil reuse facility. Once restored, the Bank will be a combination of emergent marsh of varying elevations designed to take into account predicted sea level rise, open water, and mudflat habitat, generally exposed twice a day during the tidal cycle, tidal emergent marsh above MHW generally inundated twice a month and upland buffer habitat.

The marsh plain elevation will vary to incorporate areas inundated at varying frequencies that will be vegetated with a variety of native species. Invasive plant species will be controlled via herbicide treatment and excavation as well as planting of native species to out-compete the invasive species. The tidal inundation of the Bank Site will also serve to curtail invasive species through increased hydroperiod and increased exposure to saline waters. The establishment of the tidal hydrologic regime is the key step to supporting the proposed and planned types of aquatic resources. The aquatic resources planned and proposed provide functions typical of native tidal marshes of the Raritan Bay region.

Functions anticipated to be enhanced at the Bank Site include flood storage, nutrient retention, as well as transport, and water filtration resulting in improved water quality from the interaction of the daily tides with the marsh plain vegetated with native species. The wetland can only perform an aquatic function such as flood storage and water filtration if the wetland interfaces with water and if the time of interface is substantial. Today the Bank Site has limited water interface due to elevation as well as *Phragmites* impedance of surface flow. These conditions prevent tidal water interface with the marsh in terms of water volume, depth and duration of inundation. In the future, more water will enter the Bank Site and interface with the substrate and vegetation of the wetland permitting the wetland to perform functions that result in valuable services.

Wildlife and fish habitat, including habitat for threatened and endangered species, will be enhanced in the aquatic community. Social functional benefits will include increased opportunities for scientific education, passive recreation, and aesthetic visual benefits of a restored tidal marsh.

The habitat value of the Bank Site will be improved with the establishment of native vegetation and increased tidal exchange. The hydrologic restoration of the Bank Site will create a tidal habitat suitable for a native emergent marsh community. The target vegetative community is a brackish emergent marsh dominated by native species such as saltwater cordgrass (*Spartina alterniflora)*, salt-meadow cordgrass (S*. patens*), coastal salt grass (*Distichlis spicata)*, saltmarsh rush (*Juncus gerardii),* seaside goldenrod (*Solidago sempervirens*), and wand panic grass (*Panicum virgatum).* Biobenchmarks support the design elevation of the emergent marsh including on-site and nearby extant stands of *S. alterniflora*.

Once implemented, the Bank Site will contain a combination of brackish emergent marsh of varying elevation, open water and mudflat habitat, generally exposed from twice a day to twice a month (spring tides) during the tidal cycle. Wildlife and fish habitat, including habitat for threatened

and endangered species, will be enhanced in the aquatic community. Social functional benefits will include increased opportunities for scientific education, passive recreation, and the aesthetic visual benefits of a restored tidal marsh.

The proposed Bank Site includes grading the Bank Site to elevations appropriate for the establishment of tidal marsh communities. Much of the Bank Site will be graded to elevations appropriate for an intertidal marsh community and planted with native emergent marsh vegetation. Expanses of the emergent marsh will be graded at a higher elevation at or above mean high water (MHW) expected to be tidally flowed twice a month. The highest elevations of the wetland restoration area would be established as marsh habitat with interspersed shrubs.

The Mitigation Design Plan is presented in Attachment 4

1.4.2 Design Concept References

- Metromedia Marsh Tract Restoration Site

The wetland restoration design for the Bank emulates major design components incorporated into wetland restoration designs of several projects included within The *Hudson-Raritan Estuary Ecosystem Restoration Feasibility Study (2020)* by the New York District Army Corps of Engineers (HRE). The Bank design specifically uses as a reference and emulates the 63-acre HRE's Metromedia Marsh Tract Restoration Site in Carlstadt, NJ. Bordered on the east and south by the Hackensack River, and on the north by Marsh Resources Meadowlands Mitigation Bank, the Metromedia Tract restoration site surrounds the Metromedia Broadcast property and radio transmission towers. Similar to the Bank Site, this restoration site is undeveloped and characterized as generally poor habitat, largely dominated by invasive common reed (*Phragmites australis*).

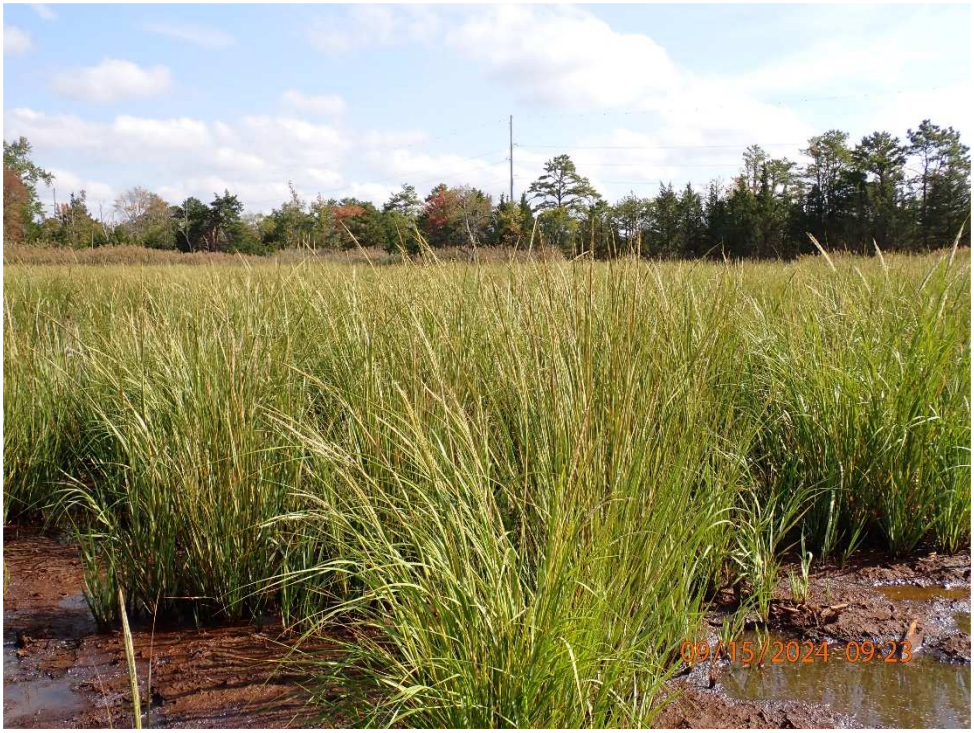
Excavation at Metromedia assumes clearing and grubbing to a depth of six inches and the material will be dredged, excavated and removed offsite to an appropriate upland disposal facility. A one-foot layer of clean growing media will be placed in the high marsh and upland areas.

The recommended plan for Metromedia will increase diversity and improve fish and wildlife habitat as well as provide secondary benefits of improving flood storage and water quality. This plan includes wetland restoration, including low marsh, high marsh and scrub/shrub habitats. In addition, the plan includes the restoration of tidal channels. The design includes the excavation of new tidal channels and the enhancement of existing tidal channels. In total this design, presented below, will restore 4.7 acres of wetlands below Mean High Water (MHW), 14.58 acres of wetlands above MHW, and enhance 1.21 acres of uplands.

- Evergreen Great Bay Mitigation Bank

The proposed design for the Raritan River Mitigation Bank is very simlar to the Evergreen Great Bay Mitigation Bank in Bass River, NJ approved in 2018 and built and planted in 2023. Implementation of the Great Bay concept for the restoration of the site opened the site to the tides and restored historical tidal marsh to portions of the site dominated by *Phragmites*. Restoration actions on the site included removing approximately 2,035 linear feet of the existing Confined Disposal Facility (CDF) dike and excavating approximately 89,000 cubic yards of material to lower portions of the site to elevations suitable for establishing marsh vegetation. Excavated material

was removed from the site and disposed of at a licensed facility. The restoration area was planted with *Spartina alterniflora* and other marsh grasses. See photos from September 2024 below:



1.4.3 Mitigation Design Concept

The proposed design of the Bank is supported and coorborated by the detailed analysis and resultant proposed design of the similar Metromedia Marsh Tract Restoration Site as developed by the New York District Army Corps of Engineers and the Evergreen Great Bay Mitigation Bank. Specific components emulated in the proposed Bank design include the excavation and removal of sediments, the restoration of the marsh plain and the incorporation of higher marsh habitat zones.

Technical studies and design concepts were developed with assistance from HDR, Inc.

For Raritan River, sediment excavation will proceed to a depth one foot below the marsh plain design target elevation and the restored marsh will be backfilled with a foot of substrate to final marsh plain elevation with imported clean substrate.

The ecological benefits of restoring human induced degradations of a wetland system are a regulatory agency accepted premise driving wetland mitigation concepts and approval. Many wetland mitigation sites have been subject of ditching or draining altering hydrology or land use disturbance permitting and promoting invasive species non-native to the area due to human induced transport and introduction. Other candidate wetland mitigation sites have been subject of fill or disturbance to the surface substrate of the land. Human induced degradation is common in the HRE of which Raritan Bay is a critical component.

Wetland mitigation concepts in the categories of restoration or enhancement all involve the reversal of human induced degradations by definition.

The ecological benefits of the reversal of human induced degradation are undeniable. The New York District HRE notes these undeniable benefits

The marsh design will support a community of mixed shrubs (marsh elder [Iva frutescens], eastern baccharis [Baccharis halimifolia]) dominated by emergent marsh grasses (saltmeadow cordgrass [*Spartina patens*], seashore saltgrass [*Distichlis spicata*], big cordgrass [*Spartina cynosouroides*], and saltmeadow bullrush [*Schoenoplectus robustus*]). Benefits of this vegetative zonational design include not only a resilient wetland that will be resistant to the effects of sea-level rise, but also a clean marsh plain to support a wetland after implementation. A raised marsh surface elevation would only be flooded one to two times per month as opposed to once or twice per day.

1.4.3.1 Tidal Zonation

The Bank Site is subject to mixed semi-diurnal tides, typical to the region that flood portions of the wetland with brackish water via unnamed tributaries to Raritan River. The Raritan River discharges into the Raritan Bay just east of the Bank Site (Figure 1.8). The local tidal datums will be used in the final restoration design.

The Bank Site is within watershed Hydrologic Unit Code (HUC) HUC 020-30-105, the tidal Lower Raritan River. The HUC watershed is comprised of an assemblage of sub-watersheds (HUC14), all or a portion of which fall into Raritan River Lower (below Lawrence) Watershed (HUC11). The Bank is also located in the New Jersey Department of Environmental Protection's (NJDEP's) Watershed Management Area 9 (WMA-09 Lower Raritan, South River, and Lawrence). WMA-09

extends east to west from Perth Amboy to North Brunswick Twp and from north to south from Plainfield to Manalapan.

Much of the western portion of the Bank Site falls within the Federal Emergency Management Agency (FEMA) 1% annual chance (100-year) (Zone AE) Special Flood Hazard Area (SFHA) of the Raritan River, generally west of the stormwater drainage easement location. A majority of the remainder of the Bank Site, east of the stormwater drainage easement location lies within the 0.2% annual chance (500-year) (Zone X) flood area (Figure 1.9). The area along the Raritan River, waterward of the berm falls within the FEMA regulated floodway (Zone AE) of the Raritan River. Floodway and floodplain areas mapped as Zone AE have a base flood elevation of 9 ft. Tidal amplitude at the site appears to be approximately 5.4 feet based on NOAA Vdatum model with a mean high water (MHW) of approximately 2.5 ft and mean low water (MLW) and -2.9 ft (NAVD88) (Table 4).

Table 4. Tidal Datum for the Raritan River adjacent to the Bank Site (NOAA Vdatum 2024)

Tidal Datum	NAVD88, ft
MHHW	2.819
MHW	2.494
MTL	-0.211
MLW	-2.927
MLLW	-3.137

A salinity sampling event has been conducted sampling the surface water salinity within the Raritan River at five locations and within the stormwater drainage easement on site at six locations. The results for the Raritan River ranged from 6 to 9 ppt (parts per thousand) indicating a brackish environment. The results within the stormwater drainage easement location ranged from 0 to 3 ppt, increasing from freshwater to more saline downstream, closer to the Raritan River.

Bio-benchmarking data was collected on May 2, 2024, from numerous nearby reference wetlands within 1 mile of the Bank Site to understand the relationship between the vegetation community and tidal regime at the Bank Site. To evaluate local tide and vegetation condition, five informal transects were run perpendicular to the shoreline at these sites. Indicators such as mudflat/open water and specific vegetation communities were selected and their elevation range was documented (when present) using a high-accuracy Emlid Reach RX RTK GNSS. Based on this bio-benchmarking data, the observed elevation ranges for the open water/mudflat, emergent marsh, and salt scrub communities are identified in Table 5.

Table 5. Raritan River Mitigation Bank Site Biobenchmarking Results

Community	Characteristic Species	Category	Tidal Elevation (NAVD88 feet)
Open Water/Mudflat	N/A	Average Low Elevation	-1.43
		Lowest Elevation	-2.30
		Average High Elevation	1.27
		Highest Elevation	1.27
Emergent Marsh	*Spartina alterniflora*	Average Low Elevation	-0.11
		Lowest Elevation	-1.22
		Average High Elevation	2.07
		Highest Elevation	2.25
	Phragmites australis	Average Low Elevation	2.11
		Lowest Elevation	1.92
		Average High Elevation	2.35
		Highest Elevation	2.35
Salt Scrub	*Baccharis halimifolia*	Average Low Elevation	2.92
		Lowest Elevation	2.86
		Average High Elevation	4.47
		Highest Elevation	4.77

The biobenchmarking survey established an elevation range for *Spartina alterniflora* generally occurring in low elevation emergent marsh between elevations -0.11 and 2.07 ft, but occurring as high as 2.25 and as low as -1.22 ft (NAVD88). *Phragmites australis* occupies a range as low as 1.92 ft, but was observed generally higher than *Spartina alterniflora* through the higher elevation salt scrub community where *Baccharis halimifolia* was observed. *B. halimifolia* salt scrub community was observed generally between 2.92 and 4.47, reaching as high as 4.77. Outliers were seen on the upland berm within the Project Site parcel at elevations over 11 ft. Results by species are shown in the box and whisker graph in Table 6.

Table 6. Raritan River Mitigation Bank Site Box Plot Biobenchmarking Results

- **Design Zonation Elevations**

Based on the above analysis of tidal amplitude where MHW is 2.494 feet and biobenchmarks, design elevations have been established as follows in NAVD88:

Below 1.4 feet: Mudflat and Open Water

1.47 – 3.0 feet: Tidal Emergent Marsh with higher marsh between 2.27 – 3.0 feet

2.6 – 3.0 feet: Tidal Emergent Marsh with Shrubs

3.0 feet and above: Upland

1.4.4 Monitoring and Maintenance

The Bank will be monitored for a five-year performance period and for as long as the Bank is selling mitigation credits. If performance issues are encountered, maintenance actions will be implemented. Maintenance would include the planting of species to replace those lost as a result of mortality greater than 15 percent; i.e., when plant density is lower than 85 percent. Additionally,

invasive species such as *Phragmites* will be monitored and treated annually to ensure levels are below 10 percent.

Maintenance access will occur by foot or through the use of boats and kayaks in the future. In the event that earthwork must be conducted, construction equipment access would be by low ground pressure equipment supported by movable individual mats.

The primary focus of the maintenance plan will be to initiate management and corrective actions necessary to achieve specified performance standards. Maintenance efforts will be designed to ensure establishment of the target vegetation types, the prevention of *Phragmites* encroachment within the tidal emergent wetland zone, and curtailment of herbivory until the time that dense vegetative cover has become established. Maintenance tasks detailed below will be undertaken as directed by the results of the monitoring program.

- **Monitoring**

Standard statistical methods will be employed to monitor the development of vegetative cover and dominance patterns within the estuarine emergent marsh/tidal marsh and upland portions of the Bank Site. The vegetation sampling program will be conducted once a year in late summer/early fall throughout the monitoring period. Permanent transects will be established within the emergent marsh and the end-points of each transect permanently marked with four-inch capped PVC pipes or equivalent. One-meter square quadrats will be established at evenly spaced intervals along each transect. The number of quadrats along each transect will vary depending on transect length.

For each quadrat, a visual estimate of the total percent of ground cover of live vegetation will be made. Using these data, the following statistics will be generated: the total percent ground cover of live vegetation, the total percent ground cover of emergent vegetation by transect, and the mean total percent ground cover of emergent vegetation for all transects. All data sheets will be included in the annual monitoring reports as an appendix. The presence of hydrophytic vegetation will be used to assess the presence and maintenance of wetland tidal hydrology.

A series of representative photographs showing all vegetation zones will be included in each monitoring report. These photographs will show vegetation development on a broad-scale and close-ups of plant growth patterns. Ground level photographs will be taken facing north, south, east and west, from stations located adjacent to each vegetation transect permanent marker or plot. A photo log or key plan will accompany all submitted photos.

- **Invasive Species Control**

During the monitoring and maintenance period, the Sponsor will conduct an invasive species control program as deemed necessary by monitoring data. This program will consist of herbicide spot treatment applications to areas of invasive species predominantly represented by *Phragmites*. At a minimum, if invasive species exceed 5 percent of the vegetative cover, the Sponsor will initiate control measures.

- **Performance Standards**

The Bank performance standards will be similar to other mitigation sites and banks of the tidal zone of New Jersey. Tidal hydrology will be monitored via observations of the daily tides. Plant survival and coverage will be monitored to achieve 85 percent cover by Year 5 with lower percent cover targets in Year 1 increasing from 65 percent to 75 percent by Year 3 and to 85 percent in Year 5. Invasives will be kept below 10 percent at all times.

All monitoring and maintenance conducted for the Bank will be performed in accordance with the MBI and Federal and State permit standards. The goal of the monitoring and maintenance program will be to accurately determine the success of the Bank relative to performance standards and goals developed and to identify any problems requiring corrective action.

The success of the Bank will be measured by performance standards. Post-construction monitoring and maintenance of the Bank will be performed for five consecutive years, beginning the calendar year and overwinter following completion of construction of the Bank.

The Bank will be designed and implemented to meet performance standards that will serve as success criteria. Monitoring will measure the performance of the Bank and results will be compared to performance standards. If the Bank meets performance standards, success will be achieved. If the Bank does not meet performance standards, corrective actions will be implemented to achieve success. Performance will be measured annually, and successful achievement of performance standards will be assessed annually. Attainment of success criteria or partial attainment of success criteria and subsequent credit release or partial credit release will be subject to agency field inspection at agency discretion.

Performance Standards by designed habitat zone are described below:

- Emergent Marsh

- **Establish Hydrologic Regime**

Demonstrate the grading has been implemented as per the approved design plans and the emergent marsh is saturated or inundated by the daily or monthly tides. Demonstration of grading includes excavation to minus 1 foot below marsh grade and capping with clean fill to marsh grade.

- **Completion of Planting**

Demonstrate the planting has been completed as per the approved design plans.

- **Hydrologic Performance Standard**

Years 1 through 5; demonstrate daily or monthly tidal saturation or inundation.

- **Vegetative Performance Standard**

Years 1 through 5; demonstrate 85 percent survival of target planting density. Years 1 and 2; demonstrate 65 percent vegetative cover. Years 3 and 4; demonstrate 75 percent vegetative cover. Year 5; demonstrate 85 percent vegetative cover. Years 1 through 5; demonstrate invasive cover is less than 10 percent.

- **Basis:**

Vegetative survival of plantings will be based on the target planting density of 4,840 herbaceous plants per acre. Invasive cover will not exceed 10 percent; management efforts will be implemented should invasives exceed a 5 percent threshold. Invasive species include species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmites australis* (Common reed grass), *Pueraria lobata* (Kudzu), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifolia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet), mile-a-minute (*Persicaria perfoliata*) and *Rosa multiflora* (Multiflora rose). Cattail is specifically not listed as an invasive species to be controlled as it is native to the region and expected to colonize the site as it has done at other wetlands of the region.

- Emergent Marsh Habitat with Shrubs

- **Establish Hydrologic Regime**

Demonstrate the grading has been implemented as per the approved design plans and the emergent marsh with shrub habitat is inundated or saturated by the daily or monthly tides. Demonstration of grading includes excavation to minus 1 foot below marsh grade and capping with clean fill to marsh grade.

- **Completion of Planting**

Demonstrate the planting has been completed as per the approved design plans.

- **Hydrologic Performance Standard**

Years 1 through 5; demonstrate daily or monthly tidal saturation or inundation.

- **Vegetative Performance Standard**

Years 1 through 5; demonstrate 85 percent survival of target planting density. Years 1 and 2; demonstrate 65 percent vegetative cover. Years 3 and 4; demonstrate 75 percent vegetative cover. Year 5; demonstrate 85 percent vegetative cover. Years 1 through 5; demonstrate woody plants are thriving. Years 1 through 5; demonstrate invasive cover is less than 10 percent.

- **Basis:**

Vegetative survival of plantings will be based on the target planting density of 200 woody plants per acre. The scrub shrub will be planted with woody species to develop habitat for passerine and raptor bird assemblages. Observations that woody plants are thriving will include positive indications of leaf growth and crown development, and stem growth in terms of height. Invasive cover will not exceed 10 percent; management efforts will be implemented should invasives exceed a 5 percent threshold. Invasive species include species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmites australis* (Common reed grass), *Pueraria lobata* (Kudzu), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifolia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet), *Persicaria perfoliata* (Mile-a-minute) and *Rosa multiflora* (Multiflora rose). Cattail is specifically not listed as an invasive species to be controlled as it is native to the region and expected to colonize the site and other wetlands of the region.

- Open Water and Mudflat

- **Establish Hydrologic Regime**

Demonstrate the grading has been implemented as per the approved design plans and the open water and mudflat area is inundated by the daily tides.

- **Hydrologic Performance Standard**

Years 1 through 5; demonstrate daily tidal inundation.

- **Vegetative Performance Standard**

Years 1 through 5; demonstrate invasive cover is less than 10 percent.

- **Basis:**

The intertidal open water and mudflat habitat zone will not be planted or seeded. Invasive cover will not exceed 10 percent; management efforts will be implemented should invasives exceed a 5 percent threshold. Invasive species include species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmites australis* (Common reed grass), *Pueraria lobata* (Kudzu), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifolia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet), *Persicaria perfoliata* (Mile-a-minute) and *Rosa multiflora* (Multiflora rose). Cattail is specifically not listed as an invasive species to be controlled as it is native to the region and expected to colonize the site as it has done at other wetlands of the region.

- Upland Enhancement Areas

- **Completion of Planting**

Demonstrate the planting has been completed as per the approved design plans and any modifications after construction are completed as reflected in the Construction Completion Report. Woody species will be planted to a density of 436 plants per acre. The goals of the upland enhancement portion of the Bank at the end of the fifth growing season are 85% vegetative coverage, 85% survival of a design target density of 436 woody plants per acre, less than 10% invasive species coverage, and 85% of the trees are five feet tall, healthy and thriving.

- **Vegetative Performance Standard**

(a) At the end of the first and second growing seasons, demonstrate 65 percent areal coverage of the mitigation plantings or target species, which are species native to the area and similar to ones identified on the mitigation planting plan, and that all plant species in the mitigation area are healthy and thriving. Demonstrate that the site is less than 10 percent occupied by invasive or noxious species.

(b) At the end of the third and fourth growing seasons, demonstrate 75 percent areal coverage of the mitigation plantings or target species and that all plant species in the mitigation area are healthy and thriving. Demonstrate that the site is less than 10 percent occupied by invasive or noxious species.

(c) At the end of the fifth growing season, demonstrate 85 percent survival and 85 percent areal coverage of mitigation plantings or target species and that all plant species in the mitigation area are healthy and thriving. Trees are to be five feet in height. Demonstrate that no more than 10 percent cover in the wetland is made up by invasive species.

(d) That the goals of the mitigation project including acreage as stated in the approved MBI and the permit, have been satisfied.

Basis:
Vegetative survival and areal coverage of mitigation plantings or target species will be based on the target density of 436 woody plants per acre. The success target density will be based on planted and volunteer woody species, which includes trees and shrubs. Only trees taller than 1.5 feet observed within the monitoring plots or transects at the time of annual monitoring will be recorded to determine positive trajectory and growth. The performance standard for trees greater than 5 feet tall at the end of the 5-year monitoring period will be recorded and averaged. Height of shrubs will not be accounted for in any of the monitoring years.

Invasive cover will not exceed 10 percent. All occurrences of invasive species will be reported to NJDEP as a result of annual monitoring efforts. Sponsor will discuss results with NJDEP and discuss a course of action, if any. Analysis will address invasive species occurrence by location, species and percentage cover. It will also address invasive species occurrence in the past monitoring years and document the trend over the course of the 5-year monitoring period. Treatment options include herbicides as well as mechanical methods.

As a result, the invasive species management plan during the monitoring and maintenance phase of the Bank will be based on monitoring results, performance and observed trends as collaboratively discussed with NJDEP. The performance standard will be 10 percent maximum cover of invasive species at the end of the 5-year monitoring period.

Invasive species include species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmites australis* (Common reed grass), *Pueraria lobata* (Kudzu), *Typha latifolia* (Broad-leaved cattail), *Typha angustifolia* (Narrowed leaved cattail), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifolia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet) and *Rosa multiflora* (Multiflora rose).

1.5 The Proposed Ownership Arrangements and Long-Term Management Strategy for the Mitigation Bank Site – 33 CFR 332.8 d-2(v)

EREH, LLC, a wholly owned subsidiary of Evergreen Environmental, LLC currently has a contracted option to purchase the Bank Site. The Sponsor will be the owner and operator of the Bank. Evergreen, as Sponsor, will secure sufficient funds and/or financial assurances (performance and maintenance bonds, casualty insurance or letters of credit), as described below, to cover contingency actions in the event that the Sponsor fails to comply with the terms of the MBI or to rectify any unforeseen events as determined by the IRT. In addition, the Sponsor shall also be responsible for providing adequate funding to monitor and maintain the Bank until

either all Bank credits have been sold or for a total of 10 years after the date of completion of construction and initial planting, whichever comes last.

Conservation Restriction: The Bank will be protected under the Conservation Restriction in form and substance presented in Attachment 5. The Conservation Restriction shall be recorded with the County Registrar of Deeds within sixty (60) days of MBI execution and run in perpetuity with the Bank Site. The Sponsor shall provide the USACE and NJDEP with written notification that the Conservation Restriction has been submitted to the County Registrar of Deeds for recordation and shall provide documentation of such recordation to NJDEP and the USACE. Under no circumstances may any credits be released, sold, debited, or credited until the NJDEP and the USACE receive proof of recording of the approved Conservation Restriction. The Conservation Restriction may not be altered, amended, assigned, or terminated without written approval of the NJDEP and the USACE, in consultation with the IRT.

Performance Surety: Prior to the release of any credits, the Sponsor will obtain a financial assurance that is acceptable to the Corps and names NJDEP as the obligee. The financial assurances for the construction of the Bank will be a Performance Surety bond casualty insurance and/or letter of credit posted in an amount equal to 115 percent of the estimated cost of construction. A Performance Surety bond posted by the construction subcontractor, naming the Sponsor and NJDEP as obligees may be used to satisfy all or part of this requirement. The request for a release of the financial assurance shall be made in writing by the Sponsor to both the Corps and the NJDEP.

Maintenance Surety: Prior to the release of the Performance Surety, the Sponsor must obtain a financial assurance that is acceptable to the Corps and NJDEP and names the NJDEP as the obligee. The financial assurances for the monitoring and maintenance costs of the Bank will be a Maintenance Surety bond, casualty insurance and/or letter of credit to assure the success of the mitigation through the completion of the monitoring period, equal to 115 percent of the estimated cost of monitoring and maintaining the site, including the cost to replant the mitigation area.

Surety Release: The NJDEP will authorize the release, in writing, of the Performance Surety upon receipt of the Sponsor's written notice of completion of project construction, subject to site inspection and approval. Upon receipt of each written annual monitoring report, showing that the project is meeting yearly performance requirements, subject to site inspection and approval, the NJDEP will annually authorize the Sponsor to reduce the balance of the Maintenance Surety by 20% of the original total.

Long Term Maintenance Plan: Long-term management will be conducted after the five-year monitoring performance period until the Bank credits are sold. The Bank will be protected under the Conservation Restriction and transferred to a long-term steward. The steward will continue to own the property and be provided with a maintenance fund. The maintenance fund will comply with NJDEP policy which states, *"Provide the government agency or charitable conservancy with a maintenance fund for maintenance and supervision of the mitigation area. The amount of the maintenance fund shall be determined by agreement between the mitigator and the agency or conservancy."*

1.6 The Qualifications of the Sponsor

The Sponsor has successfully implemented mitigation banks and mitigation sites in the State for nearly two decades. During this period, the Sponsor has developed twenty-two mitigation banks in New Jersey, Virginia and Pennsylvania, all of which have passed monitoring and maintenance periods successfully. These include the Evergreen MRI3 Mitigation Bank, which is one of the few tidal wetland mitigation banks located in the HRE. MRI3 is a successful State and federally approved bank as per the U.S. Army Corps of Engineers. The Sponsor is qualified to implement the Bank. Please see Qualifications provided in Attachment 6.

1.7 Ecological Suitability – 33 CFR 332.8 d-2 (vii)

(A) The ecological suitability of the site to achieve the objectives of the proposed mitigation bank, including the physical, chemical, and biological characteristics of the Bank Site and how that site will support the planned types of aquatic resources and functions

Existing site conditions warrant restoration, and the proposed mitigation design plan incorporates concepts applied successfully to other wetland restoration sites of the region to increase functions, values and services. The Bank Site is predominantly a *Phragmites*-dominated, tidally-restricted wetland due to marsh accretion and fill, including the historic use of the site as a CDF. Removal of the sediments during regrading will improve the quality of the substrate on site and provide for tidal exchange. The tidal exchange is critical to the establishment of a native vegetative community of higher habitat value than the monoculture of *Phragmites*.

Once implemented, the Bank will be a combination of brackish emergent marsh, open water, mudflat habitat, generally inundated twice a day during the tidal cycle with areas of higher elevation marsh to increase habitat diversity and reduce contaminate introduction via the tides. The marsh plain will be vegetated with native species and invasive species will be controlled via herbicide treatment and excavation as well as planting of native species to out-compete the invasive species. The tidal inundation of the site will also serve to curtail invasive species through increased hydroperiod and increased salinity levels.

The upland and forest habitat at the edge of the Bank Site will be enhanced and preserved.

The re-establishment and restoration of the tidal hydrologic regime is the key step to supporting the proposed and planned types of aquatic resources. The aquatic resources planned and proposed provide functions typical of restored tidal marshes of the region. Functions anticipated to be restored at the Bank Site include flood storage, nutrient retention as well as transport and water filtration and, therefore, improved water quality will result from the interaction of the daily tides with the marsh plain vegetated with native species. Wildlife and fish habitat including habitat for threatened and endangered species will be restored in the aquatic community as well as in the upland habitat community. Social functional benefits will include increased opportunities for scientific education, passive recreation and aesthetic visual benefits of a restored tidal marsh interspersed with upland habitat.

1.7.1 Existing Conditions/Site Survey

As stated above, the Bank Site consists of 34.10 acres of land located on Block 228, Lots 1 and 2 and Block 228, Lot 1.03 in Sayreville, New Jersey. The Bank Site consists of predominantly wetland and open water habitats with upland areas along the southeastern portions of the Bank Site. The Bank Site habitats are shown on the map presented in Attachment 1, Figure 1.4. The Bank Site is currently under contract between the present owner and EREH, LLC, a wholly owned subsidiary of Evergreen Environmental, LLC.

1.7.1.1 Topography

The parcels of the Bank Site consist of elevated disturbed freshwater wetlands dominated by common reed (*Phragmites australis*) and uplands with gray birch (*Betula populifolia*) and staghorn sumac (*Rhus typhina*). Berms surround these perched wetland and upland areas within the Bank Site interior. The Bank Site is bisected by a narrow stormwater drainage easement that runs south to north through the center of the Bank Site with steep banks. This drainage easement area meets the Raritan River at the northern portion of the Bank Site. The western interior of the Bank Site is flat mostly 8 to 9 ft in elevation (NAVD88). The eastern interior of the Bank Site is slightly higher ranging from 9 to 11 ft. The berms rise sharply to an elevation of 10 to 12 ft (NAVD88) from a fringe saline marsh along the Raritan River shoreline that is dominated by saltmarsh cordgrass (*Spartina alterniflora*). The elevation of this saline marsh is between 0 and 4 ft (see Figure 1.1 in Attachment 1).

1.7.1.2 Hydrology

The Bank Site is subject to mixed semi-diurnal tides, typical to the region that flood portions of the wetland with brackish water via unnamed tributaries to Raritan River. The Raritan River discharges into the Raritan Bay just east of the Bank Site (Figure 1.10). The local tidal datums will be used in the final restoration design.

The Bank Site is within watershed Hydrologic Unit Code (HUC) HUC 020-30-105, the tidal Lower Raritan River. The HUC watershed is comprised of an assemblage of sub-watersheds (HUC14), all or a portion of which fall into Raritan River Lower (below Lawrence) Watershed (HUC11). The Bank is also located in the New Jersey Department of Environmental Protection's (NJDEP's) Watershed Management Area 9.

1.7.1.3 Wetlands and Vegetation Communities

Field investigations indicate the Bank Site is composed of a matrix of wetland and upland habitats. The CDF containment berms, central and western portions of the Bank Site appear to be uplands. However, the NJDEP classifies the entire site as wetlands, including saline marsh (low marsh), Phragmites dominant interior wetlands, Phragmites dominant coastal wetlands, herbaceous wetlands, and deciduous scrub/shrub wetlands. The National Wetlands Inventory (NWI) classifies the site as estuarine and marine wetlands. These wetlands are classified as estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained/ditched (E2EM1Pd) based on the Cowardin System (Cowardin et al. 1979).

Wetlands on the Bank Site have not been formally delineated, however observations of community type and wetland vegetation and hydrologic presence/absence indicators have been made. Based on field observations, the vegetated wetland communities consist of dense monotypic stands of Phragmites throughout the Bank Site within the elevated berm, and mudflat and emergent marsh with Spartina alterniflora on the fringe of the Raritan River. Within the interior

of the Bank Site, a large portion of the Bank Site west of the berm appears to be Phragmites dominated freshwater wetlands that retain water that cannot drain out of the Bank Site due to the elevated berms and potentially a restricted layer of clay below the surface. This has likely led to ponding of water and a high-water table, especially near the western berm.

Moving east across the western portion of the Bank Site the soils appear to retain less water and do not support a wetland community as evidenced by facultative upland species such as staghorn sumac, common mullein (*Verbascum thapsus*), and eastern red cedar (*Juniperus virginiana*). Along the berm around the site *Phragmites* dominates along with eastern baccharis (*Baccharis halimifolia*), and empress tree (Paulownia tomentosa), northern bayberry (Morella pensylvanica), multiflora rose (Rosa multiflora), sweet gum (Liquidambar styraciflua), northern catalpa (*Catalpa speciosa*), fall panicum (*Panicum dichotomiflorum*). On the eastern portion of the Bank Site, the interior of the berm appears to be Phragmites-dominated freshwater wetlands and a small patch of upland forest dominated by gray birch (*Betula populifolia*).

1.7.1.4 Soils

Soils on the wetland portions of the Bank Site are mapped by the Natural Resources Conservation Service (NRCS) as Psamments sulfidic substratum (PstA), consisting of sandy lateral spread deposits over organic material, with 0 to 3 percent slopes. Soils along the perimeter of the Bank Site are classified as Pawcatuck-Transquaking complex, consisting of herbaceous organic material over sandy marine deposits, with 0 to 2 percent slopes and are very frequently flooded (Figure 1.11).

Figure 1.11. NRCS Soils Map for Evergreen Raritan River Mitigation Bank Site.

As part of the initial site assessment soil/sediment characterization sampling conducted, material was submitted for particle size analysis with hydrometer ASTM methods D6913 and D7928. The grain size data shows that soils sampled at surface and at depth are similar with soils at depth comprised of a slightly higher percentage of fine grain material (Table 7).

Should the Bank advance through the review and approval process additional studies of soil and sediments will be undertaken.

Table 7. Sediment Sampling Results Grain Size Summary

		N	% Gravel	% SAND	%C SAND	%M SAND	%F SAND	% FINES
Overall	**Range**	23	0 - 5	2.8 - 54.7	0 - 9	0.4 - 23	2.4 - 28.7	45.3 - 97.2
	Median		0	8	0	3	5	92
	Average		0.5	14.2	1.0	5.3	7.9	85.3
0 to 6”	**Range**	15	0 - 5	4.8 - 54.7	0 - 9	1.3 - 23	3.5 - 28.7	45.3 - 95.2
	Median		0	9	0	3	6	91
	Average		0.7	17.5	1.3	6.5	9.7	81.9
30 to 36”	**Range**	8	0 - 0.5	2.8 - 16.9	0 - 1.5	0.4 - 7	2.4 - 8.8	83.1 - 97.2
	Median		0	6	0	2	4	94
	Average		0.1	8.1	0.4	3.1	4.6	91.8

Notes:
Values given as a per cent of total (%). N = Number of samples in depth group.
C SAND = Coarse Sand, M SAND = Medium Sand, F SAND = Fine Sand, Fines = passes No. 200 sieve.

1.7.1.7 Threatened and Endangered Species

The Bank is within the habitat range of several protected wildlife species (Figure 1.12). The New Jersey Landscape Project indicates that the wetlands and riparian areas within Bank Site can provide habitat for many of these species, including nesting and foraging osprey (*Pandion haliaetus*; NJ-threatened), foraging bald eagle (*Haliaeetus leucocephalus*; NJ-Endangered), glossy ibis (*Plegadis falcinellus*; NJ-special concern [SC]), snowy egret (*Egretta thula*; NJ-SC), and yellow-crowned night heron (*Nyctanassa violacea*; NJ-threatened). As of June 2024, the Murphy Administration has proposed to remove bald eagle based on a finding that populations of these birds have recovered to the point where the survival of these species in the state is no longer in jeopardy. The USFWS Information for Planning and Consulting (IPaC) federally lists three species within the Bank Site: northern long-eared bat (*Myotis septentrionalis*; federal endangered), tricolored bat (*Perimyotis subflavus*; federal proposed endangered), and monarch butterfly (*Danaus plexippus*; federal candidate). During site visits to characterize and map the habitats on site, numerous bald eagle and osprey were observed flying over the Bank Site foraging in the Raritan River. No roosting bat habitat was observed in the trees that were present on the Bank Site. Additionally, no milkweed was observed on site that could potentially provide habitat for monarch butterfly.

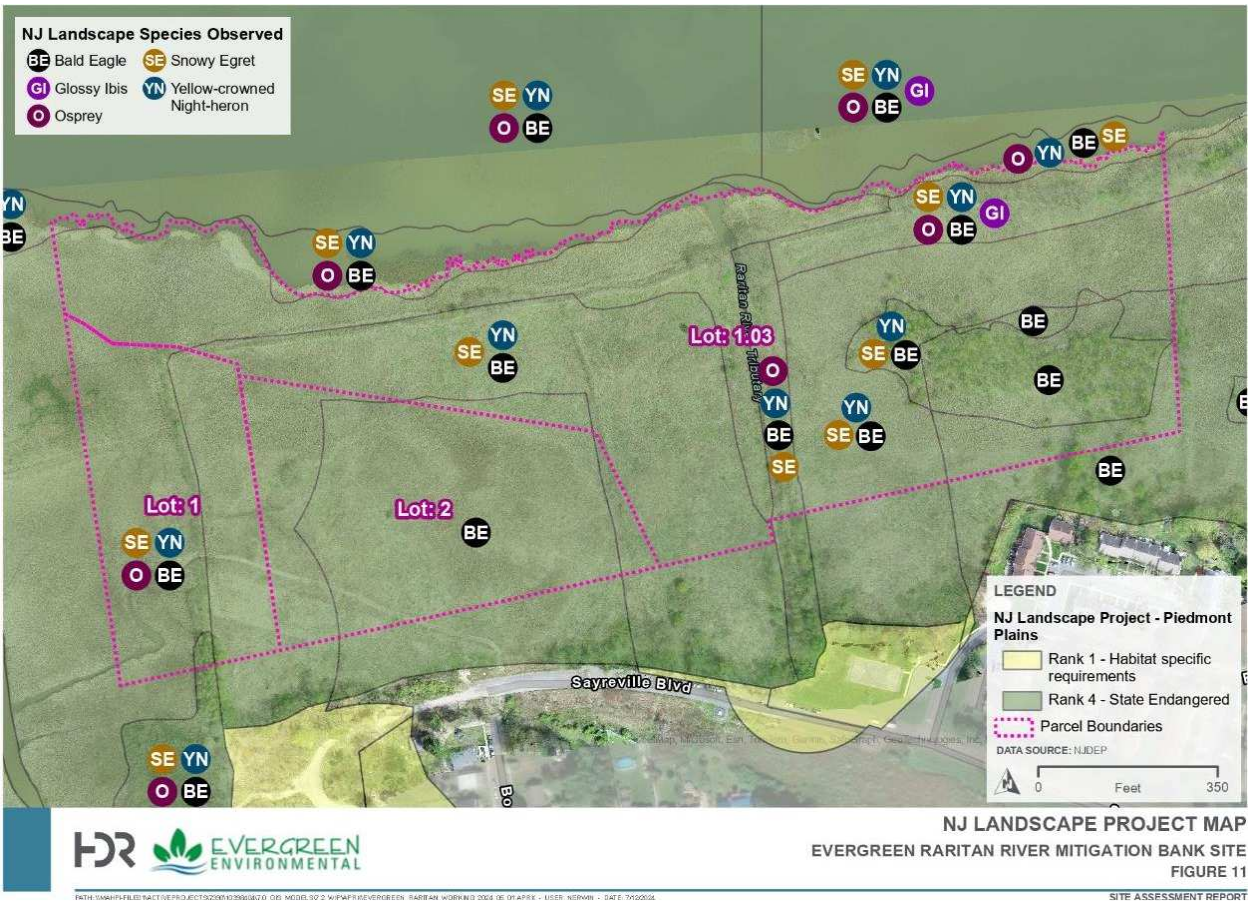


Figure 1.12 NJ Landscape Project Map for Raritan River Mitigation Bank Site

The NJDEP Natural Heritage Program (NHP) were contacted to request information on any known occurrences of federal or state endangered, threatened, proposed, or candidate species of flora or fauna or any critical habitats known to support those species within the vicinity of the Bank Site. Agency correspondence is provided in Attachment 3 and all listed species are outlined in Table 8.

Coordination with the NJDEP's Natural Heritage Program in a letter dated March 5, 2024 indicated that the emergent wetlands on the Bank Site proper can provide habitat for many of these species, including bald eagle (Haliaeetus leucocephalus; NJ-endangered), glossy ibis (*Plegadis falcinellus*; NJ-special concern [SC]), osprey (*Pandion haliateus*; NJ-threatened), snowy egret (*Egretta thula*; NJ-SC), and yellow-crowned night heron (*Nyctanassa violacea*; NJ-threatened). Additionally, a number of additional species are also known to be present in the immediate vicinity and within one mile of the proposed mitigation site (Table 8).

Table 8. Summary of Threatened, Endangered or Special Concern or Tracked Species or Habitat at and within One Mile of the Evergreen Raritan River Mitigation Bank

Common Name	Scientific Name	Status[1]	Feature Type
At the Project Site			
Bald Eagle	*Haliaeetus leucocephalus*	State Endangered	Foraging
Glossy Ibis	*Plegadis falcinellus*	Special Concern	Foraging
Osprey	*Pandion haliateus*	State Threatened	Nest
Snowy Egret	*Egretta thula*	Special Concern	Foraging
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	Foraging
Immediate Vicinity of the Project Site			
Bald Eagle	*Haliaeetus leucocephalus*	State Endangered	Foraging
Glossy Ibis	*Plegadis falcinellus*	Special Concern	Foraging
Northern Harrier	*Circus cyaneus*	State Endangered	Breeding Sighting
Osprey	*Pandion haliateus*	State Threatened	Nest/Foraging
Snowy Egret	*Egretta thula*	Special Concern	Foraging
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	Foraging
Within One Mile of the Project Site			
Bald Eagle	*Haliaeetus leucocephalus*	State Endangered	Foraging
Glossy Ibis	*Plegadis falcinellus*	Special Concern	Foraging
Little Blue Heron	*Egretta caerulea*	Special Concern	Foraging
Northern Harrier	*Circus cyaneus*	State Endangered	Nest/ Non-Breeding Sighting
Osprey	*Pandion haliateus*	State Threatened	Nest/Foraging
Snowy Egret	*Egretta thula*	Special Concern	Foraging
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	Foraging/Nesting Colony
Source: NJDEP Natural Heritage Program consultation dated March 5, 2024. Rare Wildlife Species or Wildlife Habitat on the Project Site and within One Mile of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches.			

1.7.1.8 Sea Level Rise Attenuation

Sea level rise effects will be assessed relative to the Bank design and operation. Understanding the range of potential relative sea level rise (RSLR) scenarios is important in the design of wetland mitigation sites. To accommodate varying water levels over time, the design may include planned vertical vegetation migration over the design life. Evergreen will compile RSLR guidance including from the NOAA 2022 Sea Level Rise Technical Report. The RSLR compilation will provide an understanding of three risk scenarios (low, intermediate and high) over the several time frames within the project design life. Evergreen will summarize and discuss these results to understand the bank's RSLR risk profile.

Sea level is projected to rise 10 - 12 inches in the next 30-year period (2020 - 2050) (Sweet et al. 2022). The Bank design will incrementally assess the low, medium, and high rates of sea level rise for a period of 50 years from projected implementation in 2025. Tidal elevation and inundation effects of sea level rise will be incorporated into the Bank design components. Projected levels for mean low water, mean high water, and mean high water spring will be calculated to assess sea level rise affects. Based on the results of the sea level rise analysis the Bank design will be modified to reduce impacts of sea level rise such as incorporation of higher elevation emergent marsh, scrub/shrub habitat and upland interface buffer.

Although sea level rise is a concern in Raritan Bay, the site of the proposed Bank has certain geographical advantages that provide it with a degree of natural resiliency. Specifically, the Bank Site is part of the Raritan River riverine system which is continuously providing a supply of alluvial sediments that could help to counter the effects of sea level rise through accretion. As noted in the U.S. Army Corps of Engineers, New York District's Hudson Raritan Estuary Ecosystem Comprehensive Restoration Plan, dated, June 2016 (CRP), a precursor study upon which the Corps' Restoration Feasibility Study, dated April 2020 was based, ". . . wetlands associated with a continuous source of alluvial sediments from extensive riverine drainage basins (e.g., Raritan River wetlands) may persist for a much longer duration before reaching disturbance thresholds." (See, Page 45 of the CRP).

In addition to the natural resiliency enjoyed by the Bank Site as a result of its positional location within a riverine drainage, the Sponsor is also proposing to design the Bank Site with varying elevations of emergent marsh which will help to further forestall the effects of sea level rise.

Evergreen is aware that sea level rise could affect restored wetlands and has designed the proposed bank to contain emergent marsh of varying elevations to withstand the potential effects of future sea level rise while maintaining the hydraulic conditions necessary to allow for a vibrant, resilient and diverse emergent marsh community. Based upon sea level rise predictions the Bank Site will not be affected by sea level rise until after the projected 10-year operational period of the mitigation bank.

1.7.1.9 Migratory Bird Protection Plan

Should the Bank advance, Evergreen will create a migratory bird protection plan. The migratory bird protection plan will identify project areas that have the potential to adversely impact birds and explain plans to avoid actions prohibited by the MBTA during construction. The plan will include:

Identifying the project areas that are likely to be inhabited by migratory birds and determining the times of year there may be nests, eggs, and flightless birds (e.g., chicks, birds that recently molted). The wetlands, trees, and undisturbed areas within the project area may contain habitat for nesting birds.

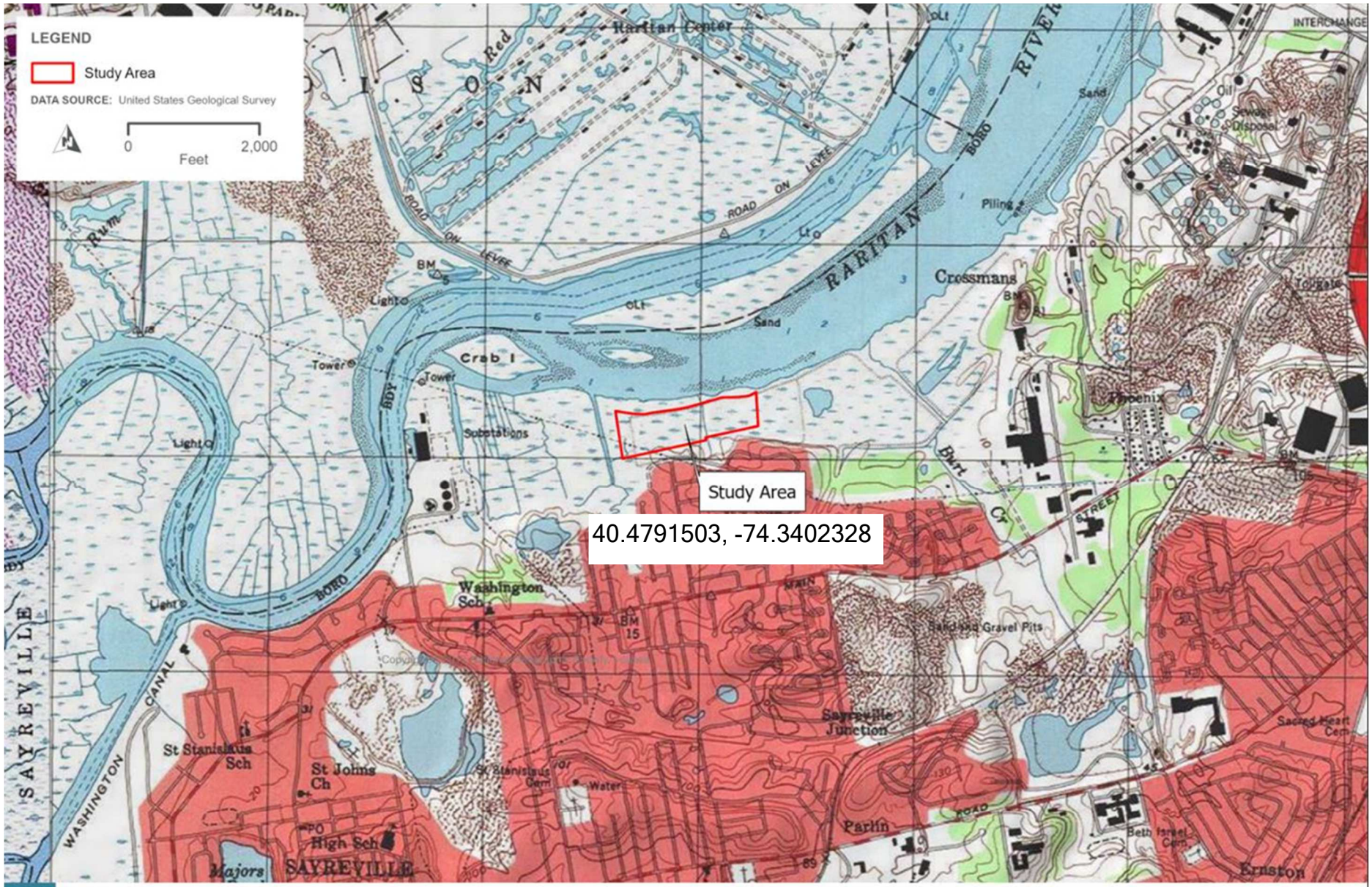
For work anticipated to occur within the areas identified above and during times of year that nests, eggs, and flightless birds may be present (range between March 15 to September 15, depending on the species that may be present) a person(s) knowledgeable and capable of bird identification will visually inspect the identified areas for the presence of nests, eggs, and flightless birds no more than five days prior to project activities commencing.

If nests, eggs, and flightless birds are present, Evergreen will avoid work that could cause actions prohibited under the MBTA (such as the wounding, killing, trapping, capturing, or collecting of migratory birds and their nests or eggs) without prior authorization by the Service. An example of a prohibited activity would be removing or relocating a nest while it is being used or permanently impacting areas that contain an active nest. Destruction of inactive nests (contains no eggs or chicks and is no longer being used by birds for breeding) is not prohibited under the MBTA, provided that no possession occurs during the destruction. More information about bird nests and the MBTA can be found at the Service's website (Service accessed 2024b).

Regardless of time of year, if native migratory birds are present at the time of the proposed construction, Evergreen will provide an opportunity for those birds to leave the area before construction occurs. This will help to ensure that birds are not incidentally wounded or killed by the proposed action.

ATTACHMENT 1

FIGURES



USGS QUADRANGLE

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

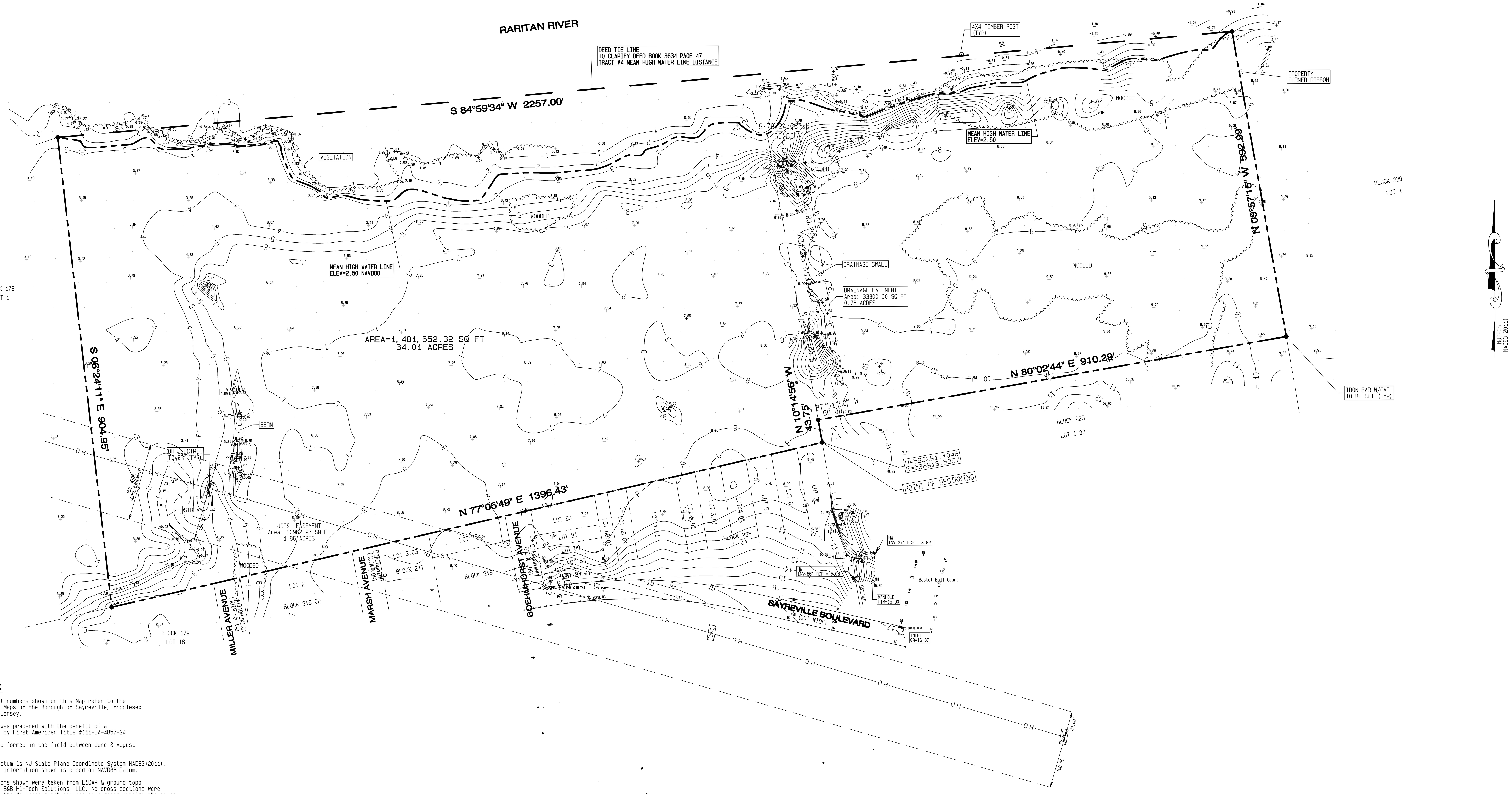
FIGURE 1.1

HDR EVERGREEN ENVIRONMENTAL

TAX PARCELS

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

FIGURE 1.2



NOTES:

1. Block and lot numbers shown on this Map refer to the Official Tax Maps of the Borough of Sayreville, Middlesex County, New Jersey.
2. This survey was prepared with the benefit of a Title Report by First American Title #111-DA-4857-24
3. Survey was performed in the field between June & August 2024.
4. Horizontal datum is NJ State Plane Coordinate System NAD83(2011). The vertical information shown is based on NAVD88 Datum.
5. Spot elevations shown were taken from LiDAR & ground topo performed by B&B Hi-Tech Solutions, LLC. No cross sections were performed on the drainage ditch and are considered outside the scope of work for this project.
6. Mean High Water Line elevation 2.50 was provided to B&B Hi-Tech Solutions, LLC by Evergreen Environmental LLC. It is based on NOAA Table 1. Tidal Datum for the Raritan River adjacent to the Project Site (NOAA Vdatum 2024)
7. Access to tract is provided via Boehmhurst Avenue (unimproved) per Township Engineer.

To: Evergreen Environmental, LLC; EREH, LLC; HDR Inc. The State of New Jersey; Department of Environmental Protection; Dune Abstract Company, Inc.; First American Title Insurance Company; Connell Foley, LLP, their Successors and/or assigns, as they may appear.

I declare that, to the best of my professional knowledge and belief this map is the result of a field survey made on 08/21/24, by me or under my direct supervision, in accordance with the rules and regulations promulgated by the State Board of Professional Engineers and Land Surveyors.

The information shown hereon correctly represents the conditions found at, and as of the date of the field survey except such improvements or easements, if any, below the surface and/or not visible.

This property is subject to easements and restrictions of record and/or prescription if any. This survey is not intended to imply or guarantee ownership of property. CAUTION: If this document does not contain the raised seal of the professional, it is not an authorized original document, and may have been altered.

GRAPHIC SCALE 1"=100'
0 100 200 300

Symbol	Description
— - - —	PROPERTY LINE
—9—	TOPOGRAPHIC CONTOUR LINE
⌒⌒⌒	EDGE OF VEGETATION OR TREE LINE
— · · · —	STREAM LINE
— — —	EASEMENT LINE
— O H —	OVERHEAD WIRES

FIGURE 1.3

No.	DATE	REVISIONS	DRWN BY	CHK BY
1	10/15/24	ADD POB CO-ORDS	DLA	AFS
2				
3				
4				
5				
6				

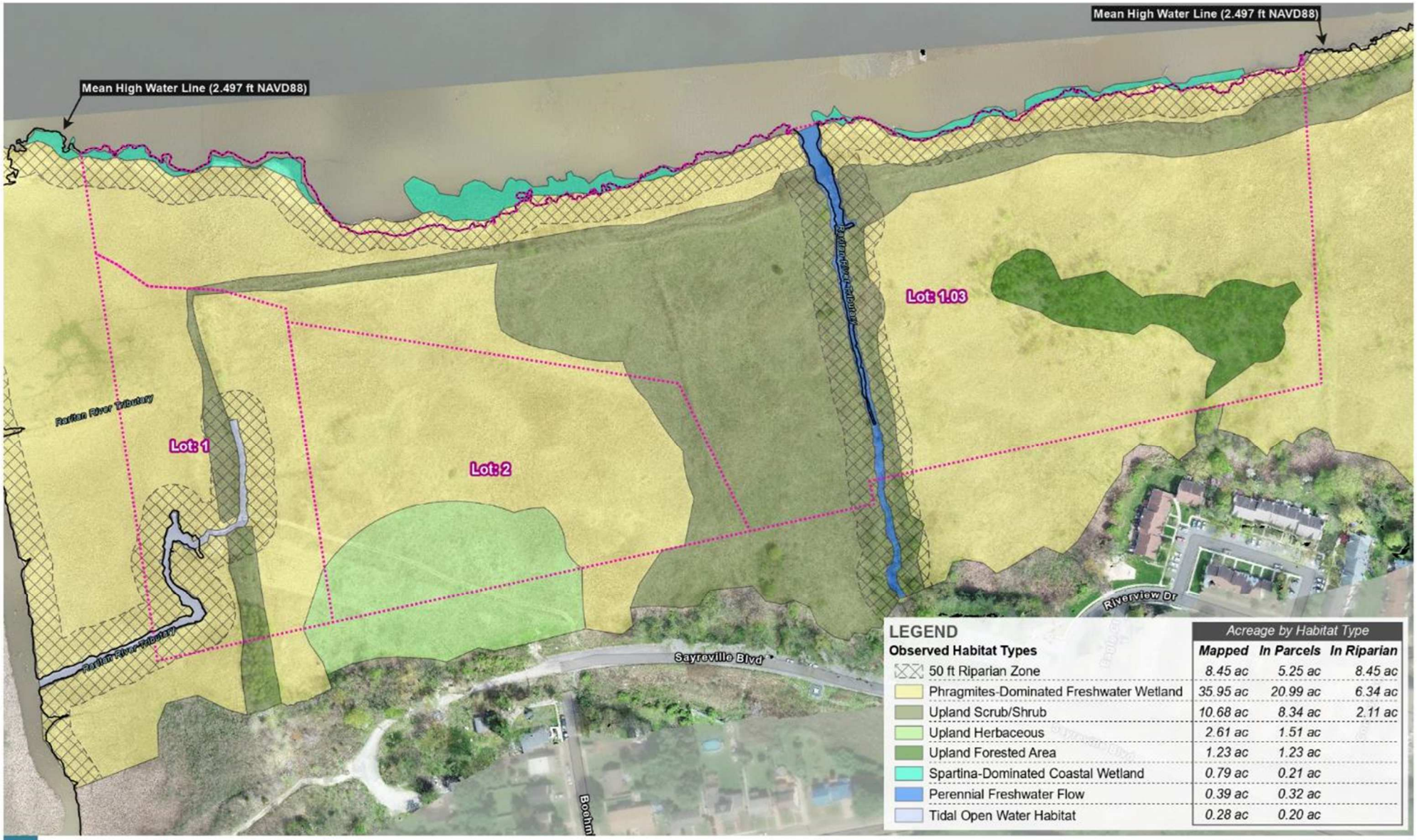
ARTHUR F. SEIFERT, JR.
Professional Land Surveyor
N.J. License No. 35876
Date 10-15-2024

B&B Hi-Tech Solutions, LLC
PO Box 38
West Berlin, NJ 08091
Phone: 609-234-8295
Certificate of Authorization No. 24GA28351500

RARITAN RIVER MITIGATION SITE
SITUATE
BOROUGH OF SAYREVILLE
MIDDLESEX COUNTY
NEW JERSEY

PROPERTY SURVEY
& TOPO

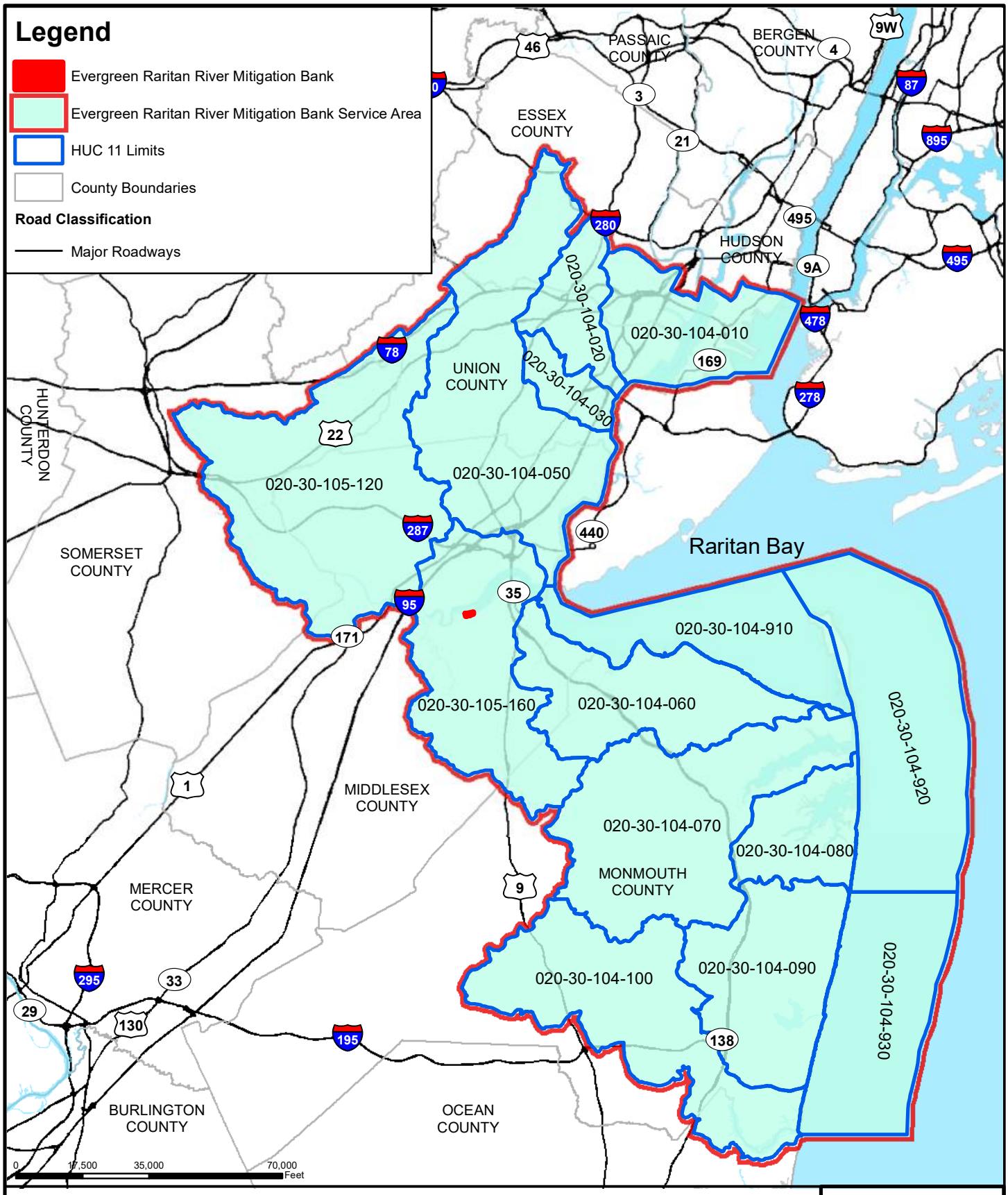
DRAWN BY: DLA
JOB No.: 24-014
DATE: 10/03/2024
SCALE: 1" = 100'
REVISION: 1
SHEET: 1 OF 1



HDR EVERGREEN ENVIRONMENTAL

OBSERVED HABITAT TYPES
EVERGREEN RARITAN RIVER MITIGATION BANK SITE

FIGURE 1.4



SERVICE AREA

EVERGREEN RARITAN RIVER MITIGATION BANK
BLOCK: 228 * LOTS: 1&2 & BLOCK: 229 * LOT: 1.03 (FORMALLY 1.C)
SAYREVILLE BOROUGH, MIDDLESEX COUNTY, NJ

EVERGREEN ENVIRONMENTAL

Scale: 1 " = 35,000 '

Date: 11/5/2024

NORTH

FIGURE 1.5

Document Path: D:\E\GIS_Projects\RaritanRiverMitigationBank\ArcMap_Documents\Prospectus\RaritanRiverServiceArea.mxd

HDR EVERGREEN ENVIRONMENTAL

NATIONAL WETLANDS INVENTORY MAP

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

FIGURE 1.8

HDR EVERGREEN ENVIRONMENTAL

FEMA FLOODPLAINS MAP

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

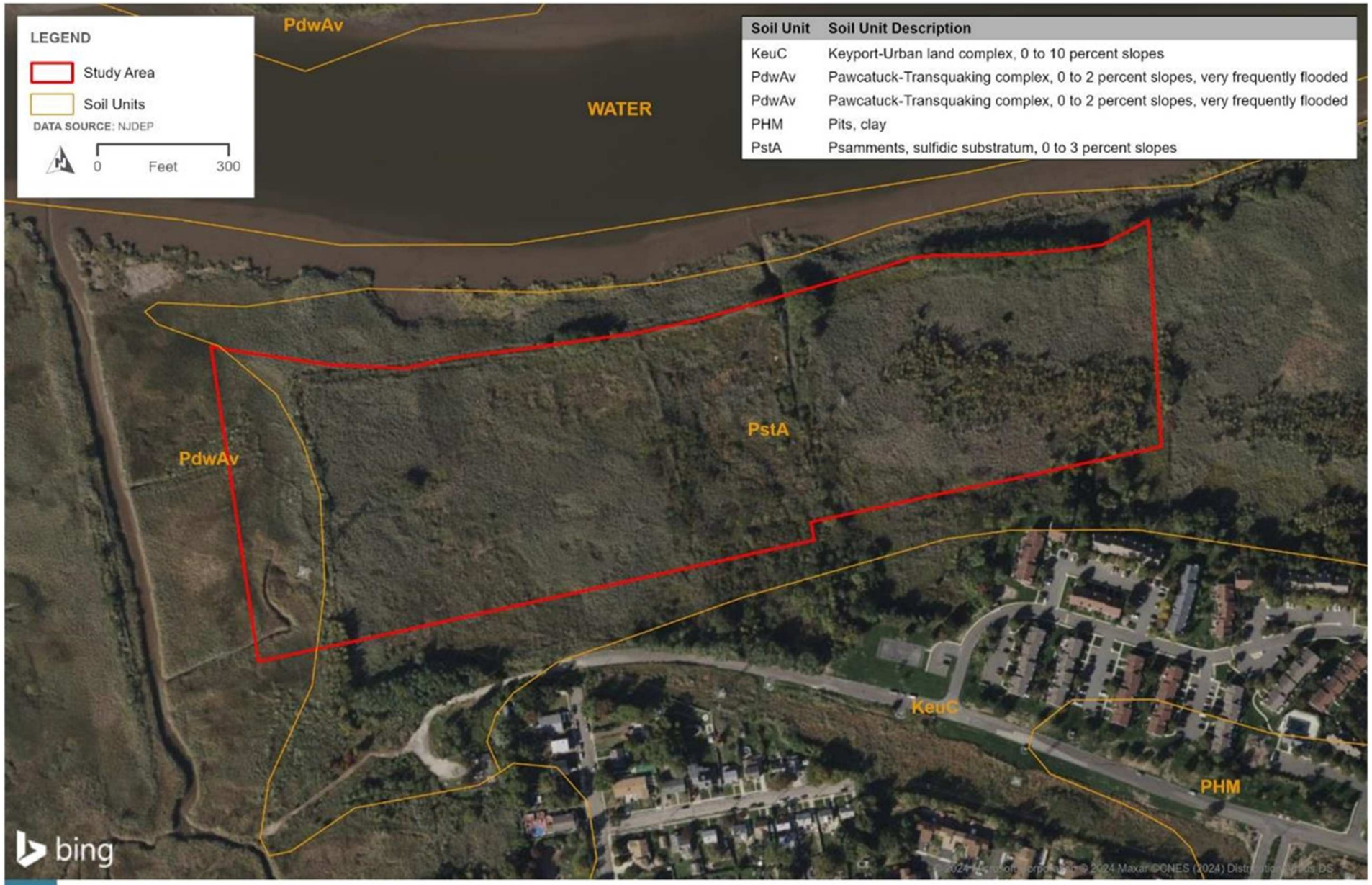
FIGURE 1.9

HDR EVERGREEN ENVIRONMENTAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION WETLANDS MAP

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

FIGURE 1.10



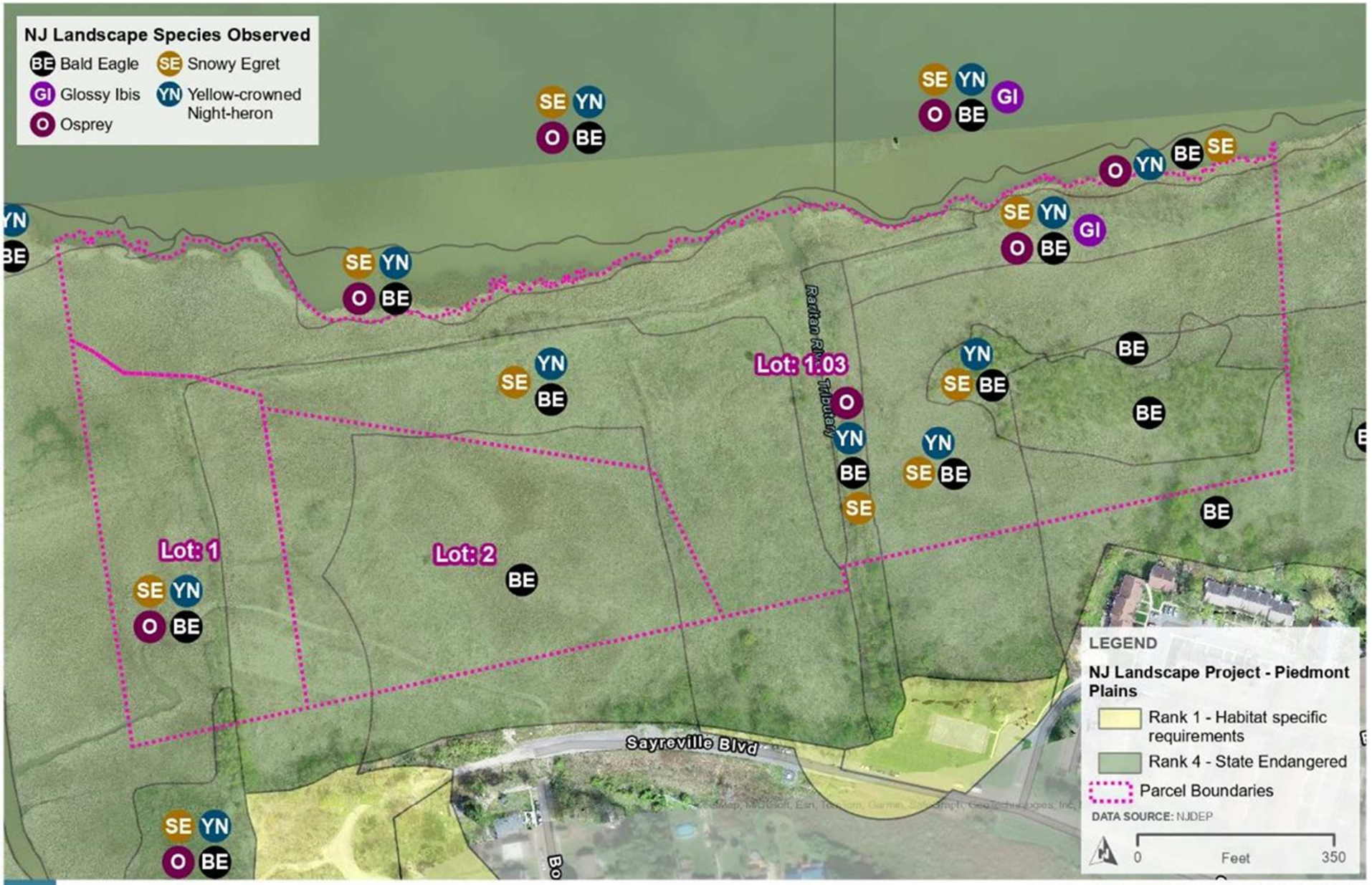
Soil Unit	Soil Unit Description
KeuC	Keyport-Urban land complex, 0 to 10 percent slopes
PdwAv	Pawcatuck-Transquaking complex, 0 to 2 percent slopes, very frequently flooded
PdwAv	Pawcatuck-Transquaking complex, 0 to 2 percent slopes, very frequently flooded
PHM	Pits, clay
PstA	Psamments, sulfidic substratum, 0 to 3 percent slopes

HDR EVERGREEN ENVIRONMENTAL

NATURAL RESOURCES CONSERVATION SERVICE (NRCS) SOILS MAP

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

FIGURE 1.11



HDR EVERGREEN ENVIRONMENTAL

NJ LANDSCAPE PROJECT MAP

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

FIGURE 1.12

ATTACHMENT 2

SITE PHOTOGRAPHS

Photograph 1 – Looking southwest from Raritan River at northern berm of site dominated by *Phragmites*, fringe saline emergent marsh at lower elevations in the foreground.

Photograph 2 – Looking west toward from Raritan River at saline emergent marsh along shoreline dominated by *Spartina alterniflora.* JCP&L power plant and powerlines in background.

Photograph 3 – Interior upland of the Project site viewing northwest dominated by *Phragmites.*

Photograph 4 – Looking north upstream along the stormwater drainage easement in the interior of the Project site.

Photograph 5 – Looking south downstream along the stormwater drainage easement from the interior of the Project site.

Photograph 6 – Looking south downstream along the stormwater drainage easement at the confluence with the Raritan River from the interior of the Project site.

Photograph 7 – Viewing west along the upland berm of the Project site near the Raritan River with empress tree in the foreground and *Phragmites* in the background.

Photograph 8 – Viewing northwest toward the Raritan River and saline emergent marsh from the *Phragmites*-dominated berm of the Project site.

Photograph 9 – Viewing south toward the interior of the *Phragmites* site at the perched emergent freshwater wetland dominated by *Phragmites*.

Photograph 10 – Interior of the project site viewing east from near the stormwater drainage easement

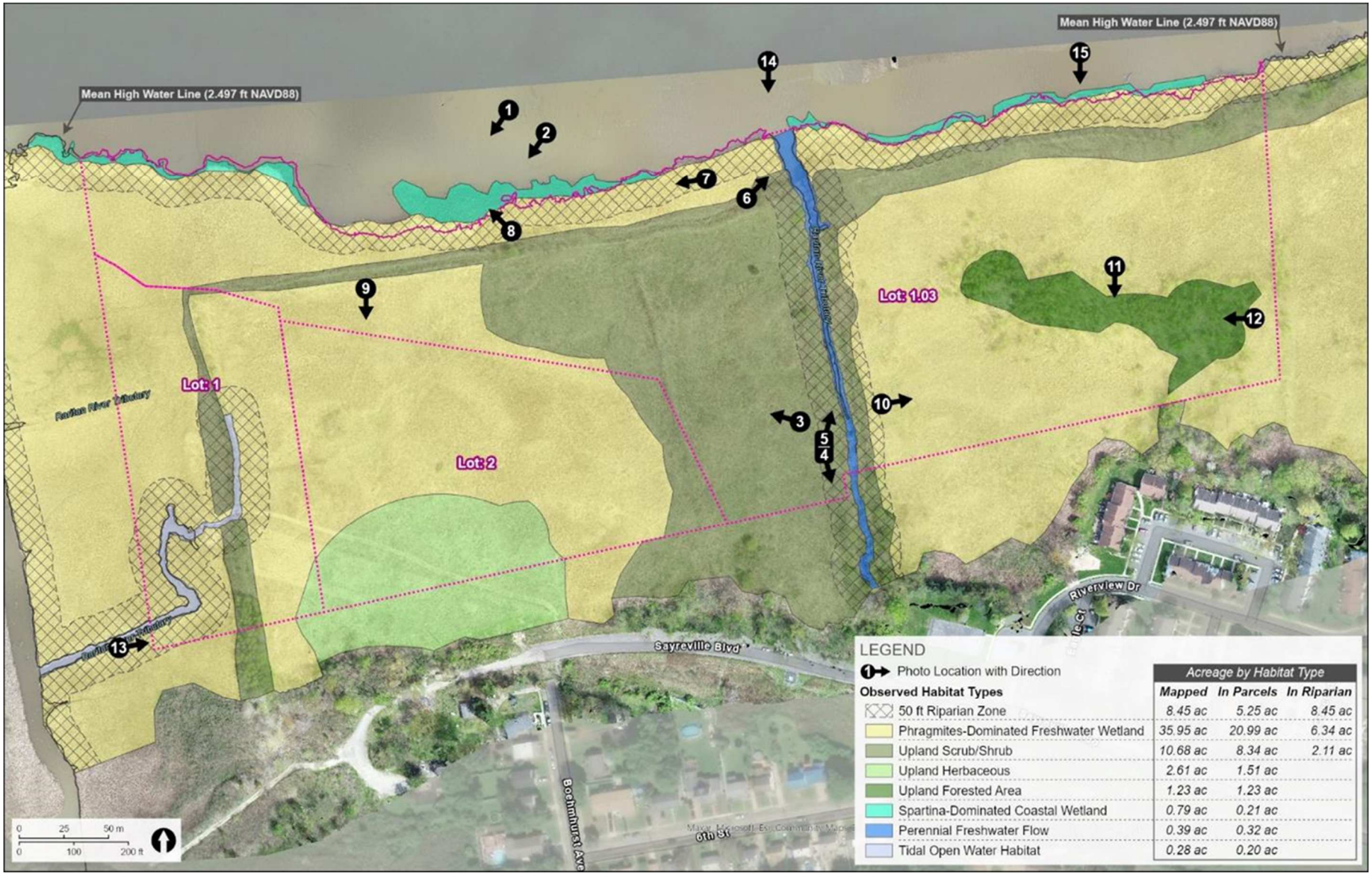
Photograph 11 – Photograph taken looking south within the upland forested area dominated by gray birch on the eastern portion of the site.

Photograph 12 – Photograph taken looking west within the upland forested area dominated by gray birch on the eastern portion of the site.

Photograph 13 – Aerial view facing northeast from southwestern portion of the site.

Photograph 14 – Aerial view facing south from Raritan River toward to stormwater drainage easement.

Photograph 15 – Aerial view facing south from Raritan River toward to northern berm dominated by empress tree (foreground) and forested area dominated by gray birch on interior of site (background).


Mean High Water Line (2.497 ft NAVD88)
Mean High Water Line (2.497 ft NAVD88)
Lot: 1
Lot: 2
Lot: 1.03
Raritan River Tributary
Raritan River Tributary
Sayreville Blvd
Riverview Dr
Boehmhurst Ave
6th St
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
0 25 50 m
0 100 200 ft
LEGEND
Photo Location with Direction
Observed Habitat Types
Acreage by Habitat Type
Mapped
In Parcels
In Riparian
50 ft Riparian Zone 8.45 ac 5.25 ac 8.45 ac
Phragmites-Dominated Freshwater Wetland 35.95 ac 20.99 ac 6.34 ac
Upland Scrub/Shrub 10.68 ac 8.34 ac 2.11 ac
Upland Herbaceous 2.61 ac 1.51 ac
Upland Forested Area 1.23 ac 1.23 ac
Spartina-Dominated Coastal Wetland 0.79 ac 0.21 ac
Perennial Freshwater Flow 0.39 ac 0.32 ac
Tidal Open Water Habitat 0.28 ac 0.20 ac

ATTACHMENT 3

AGENCY CORRESPONDENCE

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE PARKS, FORESTS & HISTORIC SITES
OFFICE OF NATURAL LANDS MANAGEMENT
501 East State Street
P.O. Box 420, Mail Code 501-04
Trenton, New Jersey 08625-0420
Tel. (609) 984-1339 * Fax (609) 984-1427
https://www.nj.gov/dep/parksandforests/natural/index.html

PHILIP D. MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

SHAWN M. LATOURETTE
Commissioner

March 5, 2024

Linda Salvati
Evergreen Environmental
425 Darby Paoli Road
Wayne, PA 19087

Re: Raritan River Site
Block(s) - 228; 229, Lot(s) - 1 & 2; 1.03
Sayreville Borough, Middlesex County

Dear Ms. Salvati:

Thank you for your data request regarding rare species information for the above referenced project site.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.3) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the map(s) submitted with the Natural Heritage Data Request Form into our GIS. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

We have also checked the Landscape Project habitat mapping and Biotics Database for all occurrences of rare wildlife species or wildlife habitat within one mile of the referenced site. Please refer to Table 3 (attached) to determine if any rare wildlife species or wildlife habitat is documented within one mile of the project site. Detailed reports are provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on the project site.

For requests submitted in order to make a riparian zone width determination as part of a Flood Hazard Area Control Act (FHACA) rule application, we report records for all rare plant species and ecological communities tracked by the Natural Heritage Program that may be on, or in the immediate vicinity of, your project site. A subset of these plant species is also covered by the FHACA rules when the records are located within one mile of the project site. One-mile searches for FHACA plant species will only report precisely located occurrences for those wetland plant species identified under the FHACA regulations as being critically dependent on the watercourse. Please refer to Table 3 (attached) to determine if any

precisely located rare wetland plant species covered by the FHACA rules have been documented. Detailed reports are provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on, or in the immediate vicinity of, the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1, 2 and 3 (attached) to determine if any priority sites are located on, in the immediate vicinity, or within one mile of the project site.

A list of rare plant species and ecological communities that have been documented from the county (or counties), referenced above, can be downloaded from https://nj.gov/dep/parksandforests/natural/heritage/database.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from https://nj.gov/dep/parksandforests/natural/docs/nhpcodes_2010.pdf.

Beginning May 9, 2017, the Natural Heritage Program reports for wildlife species will utilize data from Landscape Project Version 3.3. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive web application at the following URL, https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=0e6a44098c524ed99bf739953cb4d4c7, or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

For additional information regarding any Federally listed plant or animal species, please contact the U.S. Fish & Wildlife Service, New Jersey Field Office at http://www.fws.gov/northeast/njfieldoffice/endangered/consultation.html.

Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements (species and/or ecological communities) or their locations. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 24-4007443-29926

Table 1: On Site Data Request Search Results (6 Possible Reports)

Report Name	Included	Number of Pages
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	Included	Number of Pages
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Northern Harrier	Circus cyaneus	Breeding Sighting	4	NA	State Endangered	G5	S1B,S3N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B,S4N
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S4N

Table 3: Within 1 Mile for Riparian Zone Width Determination
(6 possible reports)

Report Name	**Included**	**Number of Pages**
1. Rare Plant Species Occurrences for Riparian Zone Width Determination (Flood Hazard Area Control Act Rule Appplication) - Within One Mile of the Project Site Based on Search of Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites for Riparian Zone Width Determination - Within One Mile of the Project Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Northern Harrier	Circus cyaneus	Breeding Sighting	4	NA	State Endangered	G5	S1B,S3N
	Northern Harrier	Circus cyaneus	Nest	4	NA	State Endangered	G5	S1B,S3N
	Northern Harrier	Circus cyaneus	Non-breeding Sighting	2	NA	Special Concern	G5	S1B,S3N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B,S4N
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N
	Yellow-crowned Night-heron	Nyctanassa violacea	Nesting Colony	3	NA	State Threatened	G5	S2B,S2N

Vernal Pool Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.3

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Potential vernal habitat area	1781

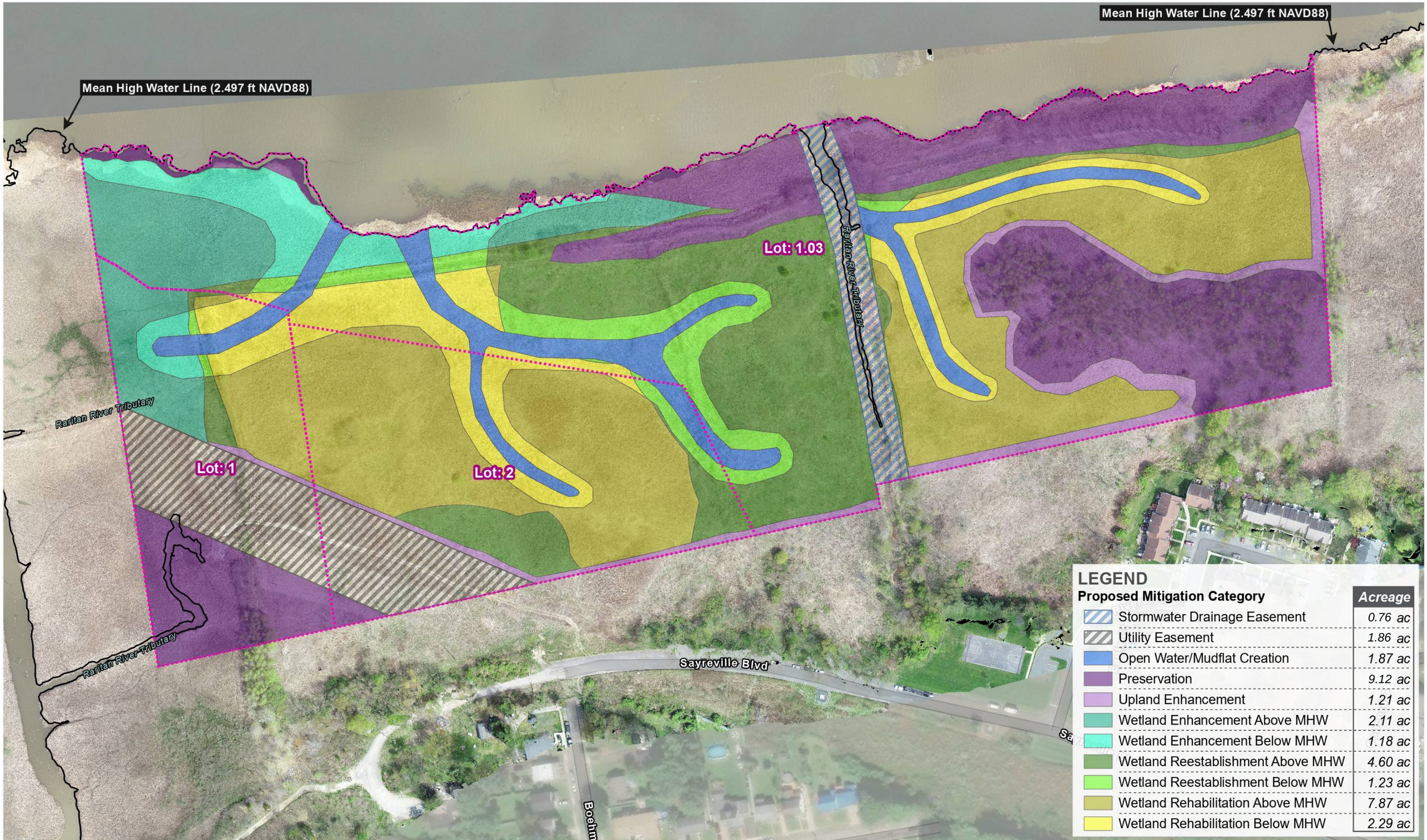
Total number of records: 1

Thursday, March 7, 2024

NHP File No.: 24-4007443-29926

ATTACHMENT 4

MITIGATION DESIGN PLAN



DRAFT MITIGATION PLAN AREAS BY CATEGORY

EVERGREEN RARITAN RIVER MITIGATION BANK SITE

ATTACHMENT 5

CONSERVATION RESTRICTION

Prepared by: _____
NJDEP File No.:_____

GRANT OF CONSERVATION RESTRICTION/
(Non-Routine Mitigation Site/Mitigation Banks)

This Grant of Conservation Restriction is made this_____day of_____, 20__ , by_____, whose address is_____, Borough/Township, County of_____, State of New Jersey, hereinafter referred to as "Grantor", in favor of the State of New Jersey Department of Environmental Protection, hereinafter referred to as the "Grantee".

WITNESSETH:

WHEREAS, the Grantor is the owner in fee simple of certain real property located in the Township/Borough of_____, County of_____, New Jersey, designated as Lot(s) _____, Block(s)_____ on the official Tax Map of the Township/Borough of _____,County Clerk or Recorder's Deed Book Number_____, Page Number_____, (hereinafter "the Property"); and

WHEREAS, the Grantor has obtained a (choose applicable permit type) Coastal Wetlands Permit, Freshwater Wetlands Permit NJDEP File No._____, pursuant to the (choose applicable statute(s)) Wetlands Act of 1970, N.J.S.A. 13:9A, the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1, and (choose applicable rule(s)) the Coastal Zone Management Rules, N.J.A.C. 7:7, the Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A, for a land use development, attached hereto as Exhibit A, and a United States Army Corps of Engineers (USACE) Permit, USACE Permit File No._____, pursuant to the Rivers and Harbors Act of 1899, 33 U.S.C. 403, the Clean Water Act, 33 U.S.C. 1344, and regulations at 33 C.F.R. 320-331, attached hereto as Exhibit B; and

WHEREAS, the Permits issued to the Grantor are conditioned upon the Grantor's recording of a Grantee and USACE approved conservation restriction/easement, pursuant to (choose applicable rule) N.J.A.C. 7:7-18, N.J.A.C. 7:7A-12 for the mitigation site area (hereinafter the "Restricted Area" or "mitigation site area") as shown on a plan, entitled_____, prepared by _____, dated
_____, attached hereto as Exhibit C, (hereinafter the "Plan"), and more particularly described on a legal description of the Restricted Area, attached hereto as Exhibit D; and

WHEREAS, wetlands play a significant role in the maintenance of environmental quality on a community, regional, statewide, and national level; and

WHEREAS, wetland mitigation site areas are a significant natural area and are an integral portion of a wetlands ecosystem; and

(Choose following paragraph for wetlands construction, restoration, enhancement; delete if preservation)

WHEREAS, the Grantor, having the authority to do so, intends to construct a wetland mitigation project, known as (insert name of mitigation bank/site), at the wetland mitigation site; and

WHEREAS, the Grantee and the USACE desire to preserve the wetland mitigation site area in its (choose applicable state) natural state, enhanced state, so as to preserve and protect wetlands, open waters, and resident animal and plant species on the Restricted Area, including the air space and subsurface forever in its natural state; and

WHEREAS, the Grantee is authorized by N.J.S.A. 13:1D-9 to formulate comprehensive policies for the conservation of the natural resources, to promote environmental protection and prevent pollution of the environment of the State by N.J.S.A. 13:9A and N.J.S.A. 13:9B, and is authorized by N.J.S.A. 13:8B-3 to acquire and enforce conservation restrictions; and USACE policy provides for protection of aquatic resources in perpetuity pursuant to Regulatory Guidance Letter 02-02; and

WHEREAS, the Grantor, having the authority to do so, intends to enter into this Conservation Restriction in order to grant to the Grantee a Conservation Restriction on the Property to restrict subsequent development and disturbance of the Restricted Area.

NOW THEREFORE, in consideration for the issuance of the Permit and for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the facts recited above and the terms, conditions and restrictions contained herein, the Grantor hereby agrees that the Property shall be subject in perpetuity to the following conveyances, covenants and restrictions in favor of the Grantee and the USACE:

1. Grantor hereby conveys, transfers, assigns and grants to the Grantee a Conservation Restriction with respect to that portion of the Property as designated as the Restricted Area shown in Exhibit C and as described in Exhibit D.

2. The Grantor shall ensure that the following activities shall not occur within the Restricted Area, with the exception of those activities that are specifically a construction or maintenance component of the mitigation plan approved as part of the DEP Permit or USACE Permit and/or shown on the Plan (Exhibit C):

    a. Removal, excavation, or disturbance of the soil;
    b. Dumping or filling with any materials;
    c. Installation of structures;
    d. Placement of pavement or other impervious surface;
    e. There shall be no removal, destruction or cutting of trees or plants, planting of trees or plants, introduction of non-native animals and plants, grazing of domestic animals, or disturbance or change in the natural habitat in any manner, except as provided in par. 8 (c) below.
    f. The use of fertilizers, herbicides or pesticides that are not specifically approved under the wetlands mitigation plan;
    g. Taking any action to alter the hydrology of the Restricted Area; (choose condition (h) or (i) with applicable statute(s) & rule(s))
    h. Any other activities constituting a regulated activity under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq. or N.J.A.C. 7:7A-2.2 as amended (“Regulated

activities in freshwater wetlands and State open waters"). Any other activities constituting a regulated activity under N.J.A.C. 7:7A- 2.3, as amended, ("Regulated activities in transition areas");

i. Any other activities constituting a regulated activity under the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq. or N.J.A.C. 7:7-2.3, as amended; or
j. Any other activities constituting a regulated activity under the Rivers and Harbors Act of 1899, 33 U.S.C. 403, the Clean Water Act, 33 U.S.C. 1344 or USACE Regulations at 33 C.F.R. Parts 320-331 as amended.

3. The Restricted Area, including its air space and its subsurface, and any portion thereof shall not be included as part of the gross area of other property not subject to this Conservation Restriction t for the purpose of determining density, lot coverage, or open space requirements, under otherwise applicable laws, regulations or ordinances controlling land use and building density.

4. There shall be no other acts or uses detrimental to the preservation of the Restricted Area, including its air space and its subsurface in their natural state as a valuable component of a wetlands ecosystem.

5. The Grantor shall mark the boundaries of the Restricted Area using unobtrusive, permanent visual markers in a manner of the Grantee's and the USACE choosing, and to the Grantee's and the USACE satisfaction, within 30 days of recording this Grant. Grantor shall thereafter maintain such markers in good condition. Examples include fence post, pipe in the ground, and survey markers.

6. This Conservation Restriction shall be a burden upon and shall run with the Property, and shall bind Grantor, its successors and assigns, in perpetuity. The Grantor shall give notice of this Conservation Restriction to all holders of any easements in the Restricted Area within 30 days of recording by the County Clerk or Recorder.

7. It is the purpose of this Conservation Restriction to assure that the Restricted Area will be maintained as such and to prevent any disturbance or development to that portion of the Property. To carry out this purpose, the following rights are granted to Grantee, and to the USACE as third-party rights of enforcement, by this Conservation Restriction:

a. To enter upon the Property in a reasonable manner and at reasonable times so as to assure compliance with the provisions of this Conservation Restriction;
b. In addition to the exercise of any other statutory or common law right, to enjoin any activity on, or use of, the Restricted Area that is inconsistent with the purpose of this Conservation Restriction and to enforce the restoration of such areas or features of the Restricted Area that may be damaged by inconsistent activity or use;
c. The right, but not the obligation, to monitor the condition of the rare plant and animal populations, plant communities, and natural and/or constructed habitats on the Restricted Area, and to manage them, if necessary, for their continued survival and quality on the Restricted Area. Such activities shall be in accordance with management practices of the Department of Environmental Protection, which may include, but not be limited to, mowing, fencing, trapping, or prescribed burning, but these practices shall not be inconsistent with the maintenance or monitoring obligations under the (reference the appropriate mitigation proposal or permit condition) approving the mitigation.

8. Grantor shall provide the Grantee and the USACE telephonic and written notice of any transfer or

change in ownership of any portion of the Restricted Area, including but not limited to the name and address of the new owner, and including but not limited to any later-formed condominium association, at least one month prior to the day of the signing of those documents accomplishing the actual transfer or change in ownership.

9. In addition to, and not in limitation of, any other rights of the Grantee or the USACE hereunder or at law or in equity, if the Grantee or the USACE determines that a breach, default or violation ("Violation") of this Conservation Restriction has occurred or that a Violation is threatened, the Grantee or the USACE shall give written notice to Grantor of such Violation, setting forth the specifics thereof, and demand corrective action sufficient to cure the Violation. If the Grantor fails to cure the Violation after receipt of notice thereof from the Grantee or USACE, or under circumstances where the Violation cannot reasonably be cured within a time period dictated by the Grantee or USACE fails to begin curing such Violation within the time period dictated by the Grantee or USACE, or fails to continue diligently to cure such Violation until finally cured, the Grantee or the USACE may bring an action at law or in equity in a court of competent jurisdiction:

a. To enjoin and/or cure such Violation,
b. To enter upon the Restricted Area and to take action to terminate and/or cure such Violation and/or to cause the restoration of that portion of the Restricted Area affected by such Violation to the condition that existed prior thereto, or
c. To seek or enforce such other legal and/or equitable relief or remedies as the Grantee or USACE deems necessary or desirable to ensure compliance with the terms, conditions, covenants, obligations and purpose of this Conservation Restriction.

10. If the Grantee or the USACE, in either agency's discretion, determines that circumstances require immediate action to prevent or mitigate significant damage to the Restricted Area, the Grantee or the USACE may pursue its remedies under paragraph 10 above without prior notice to Grantor or without waiting for the period provided for cure to expire. The Grantee's or the USACE's rights under this paragraph shall apply equally in the event of either actual or threatened Violations of the terms of this Conservation Restriction. Grantor agrees that the Grantee's or USACE remedies at law for any Violation of the terms of this Conservation Restriction / Easement are inadequate and that the Grantee or USACE shall be entitled to the injunctive relief described in this paragraph, both prohibitive and mandatory, in addition to such other relief to which the Grantee or USACE may be entitled, including specific performance. The above language shall in no event be interpreted to derogate or diminish the Grantee's rights and powers under the laws of the State of New Jersey for the protection of public health, safety and welfare.

11. Enforcement of the terms of this Conservation Restriction shall be at the discretion of the Grantee or the USACE and any forbearance by the Grantee or the USACE to exercise its rights under this Conservation Restriction in the event of any Violation by Grantor shall not be deemed or construed to be a waiver by the Grantee or USACE of such term or of any subsequent Violation or of any of the Grantee's or USACE's rights under this Conservation Restriction. No delay or omission by the Grantee or the USACE in the exercise of any right or remedy upon any Violation by Grantor shall impair such right or remedy or be construed as a waiver of such right or remedy.

12. Grantor agrees to reimburse the Grantee or the USACE for any costs incurred by the Grantee or USACE in enforcing the terms of this Conservation Restriction against Grantor, including, without limitation, the reasonable costs of suit and attorneys' fees.

13. Subject to the provisions of paragraph 21 of this Grant, the Grantee and the USACE reserve the right to transfer, assign, or otherwise convey this Conservation Restriction to any other entity or person to facilitate the operation of and/or public use and enjoyment of the Restricted Area.

14. Any notice, demand, request, consent, approval or communication under this Conservation Restriction shall be sent by certified mail, return receipt requested or reliable overnight courier, addressed as follows:

To Grantor:

To the Grantee:
State of New Jersey
Department of Environmental Protection
and its successors and assigns

As of this date of this Conservation Restriction, Grantee's address for the purposes of notice is:

For mitigation sites other than a mitigation bank:

N.J. Department of Environmental Protection
Division of Land Use Regulation
Mail Code 501-02A; P.O. Box 420
Trenton, NJ 08625-0420
Attention: Director, Division of Land Use Regulation

For mitigation bank sites:

N.J. Department of Environmental Protection
Office of Policy Implementation
Mail Code 401-07B, P.O. Box 420
Trenton, New Jersey 08625-0420
Attn: Jill Aspinwall

To the United States Army Corps of Engineers:

Philadelphia District
Regulatory Branch
The John Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107
Attention: Chief, Regulatory Branch

OR:

New York District
Regulatory Branch
Room 1937, 26 Federal Plaza
New York, NY 10278-0090
Attention: Chief, Regulatory Branch

15. A party may change the address or person to whom notices to it are required to be given by notice

given in the manner above provided.

16. Reserved.

17. This instrument conveys no additional right of access by the general public to any portion of the Property.

18. The Grantor agrees to bear all costs and liabilities of any kind related to the operation, upkeep and maintenance of the Restricted Area, including any required fencing of the Restricted Area, as stated or shown in Exhibits A or B. The Grantor shall be responsible for acts of its own negligence consistent with the provisions of the New Jersey Tort Claims Act, N.J.S.A. 59:8-1 et seq.

19. The Grantor agrees that the terms, conditions, restrictions and purposes of this Conservation Restriction will be inserted in any subsequent deed, subdivision deed, lease, sub-lease or other legal instrument by which the Grantor divests itself of any interest in any portion of the Property. Notwithstanding the failure of the Grantor to include the terms and restrictions of this instrument, it shall run with the land and be binding on all heirs, successors and assigns.

20. The Grantee agrees that it will assign its rights under this Conservation Restriction only to another governmental body or a charitable conservancy, and only in accordance with N.J.S.A. 13:8B-1 et seq. and N.J.S.A. 13:9B-1 et seq.

21. Notwithstanding anything contained herein to the contrary, any modification or termination of this Conservation Restriction shall require the prior written approval of the Grantee and the USACE, their successors or assigns.

22. This Conservation Restriction shall survive any merger of the fee and restriction interest in the Restricted Area.

23. In the event of a conflict between this Conservation Restriction, the Grantee or USACE's permit (Exhibits A and B), and/or plan(s) depicting the required Restricted Area, Exhibit C, the plan(s) shall govern over the permit(s) and Conservation Restriction; and the permit(s) shall govern over the Conservation Restriction, until the mitigation has been declared successful in accordance with (choose applicable rule(s)) the Coastal Zone Management Rules, N.J.A.C. 7:7, the Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A, Flood Hazard Area Control Act Rules, N.J.A.C. 7:13, at which time the Conservation Restriction shall govern over the permit(s).

24. Taxes, Liens.

a. Grantor retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep and maintenance of the Property and Restricted Area. Grantor shall keep the Property and Restricted Area free of any liens arising out of any work performed for, materials furnished to, or obligations incurred by Grantor.

b. The Grantor agrees to pay any real estate taxes or other assessments levied on the Property and Restricted Area. If the Grantor becomes delinquent in payment of said taxes or assessments, such that a lien against the land is created, the Grantee, at its option, shall, after written notice to the Grantor, have the right to purchase and acquire the Grantor's interest in said Property and Restricted Area or to take such other actions as may be necessary to protect the Grantee's interest in the Restricted Area and to assure the continued enforceability of this Conservation

Restriction.

25. Miscellaneous.

a. Unless superseded by federal law, the laws of the State of New Jersey shall govern the interpretation and performance of this Conservation Restriction.
b. If any provision of this Conservation Restriction or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Conservation Restriction, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.
c. This Conservation Restriction and the Permit set forth the entire agreement of the parties with respect to the Conservation Restriction and supersede all prior discussions, negotiations, understandings or agreements relating to the easement, all of which are merged herein. No alteration or variation of this Conservation Restriction shall be valid or binding unless contained in writing executed by the parties hereto.
d. Should there be more than one Grantor, the obligations imposed by this Conservation Restriction upon each Grantor shall be joint and several.
e. The covenants, terms, conditions and restrictions of this Conservation Restriction shall be binding upon, and inure to the benefit of, the parties hereto and all parties having or acquiring any right, title or interest in any portion of the Property, including holders of subdivision deeds, and shall continue as a servitude running in perpetuity with the Property.
f. The captions in this Conservation Restriction have been inserted solely for convenience of reference and are not a part of this Conservation Restriction and shall have no effect upon construction or interpretation.
g. Execution of this Conservation Restriction does not constitute a waiver of the rights or ownership interest of the State of New Jersey in public trust property.
h. This Conservation Restriction may be executed in any number of counterparts, all of which, taken together, shall constitute one and the same instrument.

26. Except if the Restricted Area is a mitigation site under the Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A, the Grantor may undertake *de minimis* modifications of the Restricted Area that are approved by the Grantee and the USACE in writing prior to commencement of the modification. The Grantee and the USACE may approve a modification under the following conditions and with the following documentation:

a. The modification results in an increased level of protection of the regulated resource; or
b. The modification results in equivalent areas of resources protected; and
c. The modification does not compromise the original protected resource.

27. If the Grantee and the USACE approves the Grantor's modification, the Grantor shall amend this instrument by preparing and submitting to the Grantee and USACE for review and approval:

a. A revised plan and metes and bounds description for the area to be preserved under the modified Conservation Restriction (hereinafter the “Modification Documents”); and
b. An Amended Conservation Restriction that reflects the modifications to the original Conservation Restriction and the justification for the modification, and that also includes the deed book and page of the title deed for the property or properties subject to the modified Conservation Restriction set forth in the Modification Documents.

28. The Grantor shall record the documents listed in paragraph 28, above, in the same manner and place as this original Conservation Restriction was recorded.

29. This Grant of Conservation Restriction may only be removed pursuant to N.J.S.A. 13:8B-1 et seq.

30. The Grantor reserves unto itself the right to abandon the project entitled _____, Permit File Number _____ (the "Project" as depicted and described in Exhibits B and C, respectively), whereupon the Grantee shall execute an appropriate release of this Conservation Restriction without the need for a public hearing that might otherwise be required under N.J.S.A. 13:8B-1 et seq. Abandonment of the approved Project shall include a relinquishment of the Project's associated permits and any and all rights thereto. The right to this release of the Conservation Restriction may only be undertaken prior to any site disturbance, pre-construction earth movement or construction within any regulated land and water areas governed by this instrument. Any such release shall be effectuated by the recordation of a Release of Conservation Restriction which has been duly executed by Grantor and Grantee.

31. Pursuant to N.J.A.C. 7:7A-12.1(d), each owner of the Property is required to notify the county and/or municipality of the Conservation Restriction whenever any application for a local approval involving this Property is submitted.

TO HAVE AND TO HOLD unto the State of New Jersey, Department of Environmental Protection, its successors and assigns forever. The covenants, terms, conditions, restrictions and purposes imposed with this Conservation Restriction shall not only be binding upon the Grantor but also upon its agents, personal representatives, assigns and all other successors to it in interest, and shall continue as a servitude running in perpetuity with the Property.

IN WITNESS WHEREOF, the Grantor has set its hand and seal on the day and year first above written, and directs that this instrument be recorded in the office of the _____County Clerk or Recorder.

_____ (Grantor)

By:_____(Signature names and title)
ATTEST:

_____
, Secretary
(Seal)

STATE OF _____
COUNTY OF _____

Be it remembered that on this_____day of_____, 20_, before me, the subscriber, a Notary Public of New Jersey, personally appeared:_____, and he thereupon acknowledged that he signed the foregoing instrument (in such capacity, that the seal affixed to said instrument is the corporate seal of said corporation), and that said instrument is the voluntary act of deed of said person (or corporation, made by virtue of authority from its Board of Directors).

_____

A Notary Public of _____

My Commission Expires: _____

Attachments required: NJDEP Approved Permit
USACE Approved Permit
NJDEP Approved Restricted Area Plan
Metes and Bounds description schedule

ATTACHMENT 6

QUALIFICATIONS AND EXPERIENCE

Qualifications and Experience

Evergreen is the largest mitigation banker in New Jersey with fifteen (15) approved and constructed banks and four (4) proposed banks in the review/permitting process (see Figure 8.1). Evergreen has also performed turnkey mitigation on more than 25 wetland and riparian zone sites owned or optioned in the State of New Jersey. Total restored and preserved lands in New Jersey are approximately 1,500 acres.

Evergreen is staffed by restoration and asset management experts skilled in the acquisition of property suitable for mitigation (see attached key staff resumes). We blend solid eco-restoration science with land management and risk assessment skills to develop successful quality mitigation. The foundation of a good mitigation project is solid science and engineering, but the key to successful mitigation is finding the right site and performing that science and engineering analysis on land that is in the right landscape position. Our experience goes beyond site selection, permits and design to hands-on experience with land acquisition, construction, planting, monitoring and managing of environmental assets such as riparian zone buffers and wetland mitigation sites and banks.

Evergreen currently owns and maintains environmental assets in New Jersey, Pennsylvania and Virginia. In New Jersey, Evergreen has acquired more than 63 properties comprising 1900 acres of ecological restoration lands since our inception in 2006. Evergreen takes pride in our ability to find and acquire property, protect it through conservation easements and deed restrictions and manage the asset to the point of disposition to an approved land trust for perpetual preservation.

Evergreen's staff is comprised of eco-restoration experts with more than 60 years of experience working for the top environmental engineering firms in the region and financial and land acquisition asset management experts with more than 33 years' experience managing financial assets and conducting risk analysis, and legal experts with more than 30 years' experience specializing in environmental permitting and regulatory matters as well as land acquisition, investigation, management and preservation.

Evergreen is qualified to implement wetland mitigation banks in New Jersey and our most relevant and proximate example is our Evergreen MRI3 Mitigation Bank in the Meadowlands. This successful mitigation bank has met all success criteria and credit release milestones. Established in 2012, it is still the most recent mitigation bank approved in the Meadowlands.

With our staff, knowledge and experience, Evergreen brings the combination of the key skills required to ensure the success of the Evergreen Mill Creek Point Mitigation Bank.

James R. Holt, Jr.
Chief Financial Officer, Evergreen Environmental, LLC

Education
B.A., English Harvard College, 1981

Mr. Holt is a founding partner and the Chief Financial Officer of Evergreen Environmental, LLC. Evergreen is the leading wetland mitigation banking firm in New Jersey. Mr. Holt is responsible for coordination with Evergreen's legal and accounting advisors, restoration site selection, landowner negotiations, acquisition proceedings, rights-of-entry, and due diligence period assessment of site suitability. As a risk analysis expert, he has 33 years of experience analyzing contracts and assessing liabilities as they relate to various activities, including real estate holdings, construction operations, pollution liability and environmental assets. He is an expert in asset management, conservation easements, deed restrictions, land donations and the establishment of endowments for secure disposition and protection of ecological assets. Relevant projects include:

Garden State Parkway Milepost 30 to Milepost 80 Widening, New Jersey. Principal-in-Charge for site acquisition, landowner negotiations and due diligence period property assessment. Mr. Holt managed conservation easement and conservation restriction recording and land transfer proceedings for more than 700 acres of mitigation lands*. Client: New Jersey Turnpike Authority*

Evergreen MRI3 Mitigation Bank, Bergen County. Task Manager for the land acquisition and development of a 51-acre tidal mitigation bank in the Hackensack Meadowlands. This federally approved wetland bank provides credits in the highly urbanized Hackensack Meadowlands District. Design and construction challenges included mercury remediation, removal of berms and a tide gate, restoration of tidal flow and establishment of native marsh grass species. Credits from this bank are used by permittees in the watershed.

Global Marine Terminals Mitigation Site, Bergen County. Task Manager for the land acquisition and development of a 16-acre tidal mitigation bank in the Hackensack Meadowlands along Moonachie Creek and the Hackensack River. Design and construction challenges included mercury remediation, removal of berms and a tide gate, restoration of tidal flow and establishment of native marsh grass species.

Evergreen Abbot Creek Mitigation Bank, Cumberland County. Task Manager for a 250-acre federal wetland mitigation bank along Delaware Bay. The Bank was built and planted in 2016 to restore a diked tidal marsh and create 76 mitigation credits.

Evergreen Whale Creek Mitigation Bank. Task Manager for land acquisition for a 18-acre tidal wetland mitigation bank along Raritan Bay in Monmouth County New Jersey. Advanced this proposed mitigation bank through Prospectus, Public Notice and Draft MBI with NYD IRT.

Stipson's Island Mitigation Bank, Cape May County, NJ. Principal-in-Charge for the site identification, selection, acquisition and development of a 35-acre tidal and freshwater mitigation bank. Managed land acquisition and financial analysis. Developed a market analysis of impacts in the region, assessed mitigation ratios, determined the bank service area and established a design/build team to implement the project. Presented the project to the NJDEP Freshwater Wetlands Mitigation Council and achieved all approvals.

Atlantic City Expressway Third Lane Widening. Principal-in-Charge for riparian zone mitigation for permanent and temporary impacts. Mitigation entails two mitigation sites of more than 60 acres in WMA-15. *Client: South Jersey Transportation Authority.*

Evergreen Great Egg Harbor River Mitigation Bank. Task Manager for a 103-acre wetland mitigation bank planting and implementation in Gloucester County, WMA-15 in the Pinelands Preservation Area. This mitigation bank preserved and restored wetland mitigation lands in a forested system along a Pinelands creek.

Evergreen Oldmans Creek Mitigation Bank. Task Manager for site identification, selection, acquisition and development of this 68-acre wetland and riparian zone mitigation bank located in Salem County, WMA 18. This wetland and riparian zone mitigation bank preserved previously farmed lands along a tributary of the Oldmans Creek and restored the area to a combination of forested wetland and grassland habitats.

Mark Renna, PWS, C.E.
President and Partner, Evergreen Environmental, LLC

Education
M.S., Zoology and Physiology, Rutgers University, 1982
B.S., Biology, Fairfield University, 1979
Professional Registrations/Certifications
Society of Wetland Scientists, Professional Wetland Scientist, #000785
Certified Ecologist, Ecological Society of America
Certified in U.S. Fish & Wildlife Service Habitat Evaluation Procedures
Member: New Jersey Wetlands Mitigation Council (2016-2020), National Mitigation Banking Association

With more than 30 years of experience, Mr. Renna is a Professional Wetland Scientist and specializes in ecological restoration, wetland mitigation banks and implementation of ecological mitigation. At Evergreen Mr. Renna has designed, built, planted, monitored, and maintained numerous wetland mitigation sites and banks in New Jersey. Along with his two partners at Evergreen, Mr. Renna owns and operates more wetland mitigation banks in New Jersey than any other entity representing habitats in diverse watersheds across the state including freshwater and tidal wetlands. Beyond wetland mitigation banking, Mr. Renna has secured, designed and implemented more than 2,000 acres of lands in the state for turnkey mitigation of wetlands, riparian buffer, critical wildlife habitat, and T&E habitat. He is skilled in the assessment of wetland mitigation value in terms of ecological uplift and economic cost and value. Examples of relevant experience include:

Evergreen MRI3 Mitigation Bank, Bergen County. Project Manager for the development of a 51-acre tidal mitigation bank in the Hackensack Meadowlands. This federally approved wetland bank provides credits in the highly urbanized Hackensack Meadowlands District. Design and construction challenges included mercury remediation, removal of berms and a tide gate, restoration of tidal flow and establishment of native marsh grass species. Credits from this bank are used by permittees in the watershed.

Global Marine Terminals Mitigation Site, Bergen County. Project Manager for the development of a 16-acre tidal mitigation bank in the Hackensack Meadowlands along Moonachie Creek and the Hackensack River. Design and construction challenges included mercury remediation, removal of berms and a tide gate, restoration of tidal flow and establishment of native marsh grass species.

Evergreen Abbot Creek Mitigation Bank, Cumberland County. Project Manager for a 250-acre federal wetland mitigation bank along Delaware Bay. The Bank was built and planted in 2016 to restore a diked tidal marsh and create 76 mitigation credits.

Evergreen Whale Creek Mitigation Bank. Project Manager for a 18-acre tidal wetland mitigation bank along Raritan Bay in Monmouth County New Jersey. Advanced this proposed mitigation bank through Prospectus, Public Notice and Draft MBI with NYD IRT.

Stipson's Island Mitigation Bank, Cape May County. Project Manager for the development of a 35-acre tidal and freshwater mitigation bank; the first approved in the Philadelphia District of the U.S. Army Corps of Engineers. Credits were used to mitigate for the Garden State Parkway 9, 10, 11 Interchanges Improvements project.

Evergreen Great Bay Mitigation Bank, Burlington County. Project Manager for a 108-acre federal wetland mitigation bank in Bass River. The Bank was built and planted in 2023 to restore a former confined disposal facility to tidal marsh and create 26 mitigation credits.

Garden State Parkway Milepost 30 to Milepost 80 Widening. Project Manager for the wetland (tidal and freshwater), threatened and endangered species, critical wildlife habitat and CAFRA public access to the waterfront mitigation for this 50 mile widening project. Mitigation entailed full delivery acquisition, implementation and maintenance of more than 750 acres of mitigation at seven locations in Ocean, Burlington and Atlantic Counties, NJ. At the Bass River 85-acre tidal marsh, built and planted a restored tidal marsh inclusive of terrapin habitat and a public access fishing pier.

PUBLICATIONS/PRESENTATIONS

"Turnkey Environmental Mitigation in New Jersey", American Society of Highway Engineers, December 13, 2011, Invited Speaker

"Stipson's Island Mitigation Bank: A Case Study from New Jersey" 12th National Mitigation & Ecosystem Banking Conference, May 5-8, 2009, Salt Lake City, Utah. The presentation presented a case study of the first federal wetland mitigation bank approved in the Philadelphia District.

"The Plan to Restore the Meadowlands to Health (not Youth)" at the Meadowlands Symposium sponsored by the Meadowlands Environmental Research Institute held October 10, 2003 at the New Jersey Meadowlands Environmental Center.

Renna, Mark, invited speaker. February 2002. *Banking on Streams and Air.* Terrene Institute 5th National Wetland Banking Conference, Washington, D.C.

Renna, Mark, moderator and featured speaker. October 2001. *Is Wetland Restoration Overrated: The Debate Over Creation Versus Restoration.* Wetland Restoration in the NY/NJ Harbor Estuary Conference.

Renna, Mark, Discovery Channel featured interview. First aired September 10, 1998. *Eco-Technology Today.* Filmed and interviewed on-location at a wetland creation site. The segment presented the Eagle Run wetland mitigation site in Delaware, a former auto junkyard transformed into a tidal freshwater emergent marsh.

Weis, J.S., P. Weis, M. Renna, S. Vaidya, 1985. *Search for a Physical Component of Methylmercury Tolerance in a Mummichog, Fundulus heteroclitus. In: Marine Pollution Physiology Recent Advances.* Edited by Vernberg, Thruberg, Calabrese and Vernberg, University of South Carolina Press.

Renna, Mark, N. Makofka, J. Maser, 1987. *Aquatic Biota of the Hackensack Meadowlands: An Environmental Survey Conducted for the New Jersey Turnpike Widening Project*, Presentation, New Jersey Academy of Sciences.

Renna, Mark, 1982. Masters Thesis Rutgers University. *"The Effect of Polluted Water and Methyl Mercury on Fin Regeneration and Swimming Stamina of Killifish (Fundulus heteroclitus): A Comparison Between Two Populations".* Piles Creek tributary to the Arthur Kill and Southampton, Long Island, New York.

James R. Ingram
Partner, Evergreen Environmental, LLC

Education
B.S., Environmental Studies, Youngstown State University Education
Post Graduate Work, Environmental Studies, Temple University, 1985
Professional Registrations
Society of Wetland Scientists

Mr. Ingram is responsible for technical aspects of wetland, stream, and riparian mitigation, site selection, permitting, design and monitoring, and management. Areas of expertise include forested and freshwater systems, banking instrument development, and stream and riparian buffer restoration. He has been a Project Manager and consultant on construction, planting, maintenance and management of wetland and stream mitigation banks in Pennsylvania, New Jersey and Virginia. Mr. Ingram performs and manages regulatory compliance and coordination. He leads land acquisition and analysis efforts, as well as field studies and landscape plans. Relevant projects include:

Back Brook Mitigation Site, New Jersey. Project Manager for riparian zone mitigation for permanent and temporary impacts associated with a gas pipeline project. Coordinated site search and property owner agreements. Responsible for project design and agency correspondence/meetings. Construction and planting oversight.

Game Creek Mitigation Site. Project Manager for 13-acres of wetland and riparian zone mitigation in southern New Jersey for permanent and temporary impacts associated with a gas pipeline project. Coordinated site search and property owner agreements. Responsible for project design and agency correspondence/meetings in addition to construction and planting oversight.

Garden State Parkway Milepost 30 to Milepost 80 Widening, New Jersey. Task Manager for the Pinelands T&E and Critical Wildlife Habitat and CAFRA T&E and CWH mitigation at the Ballanger Creek and Turtle Creek mitigation sites where more than 315 acres were secured and preserved as mitigation pursuant to the NJDEP permit and the Pinelands MOA. Land ownership has been transferred to an approved land steward. Task Manager for the planting implementation of the Gunning River wetland mitigation site forested system. *Client: New Jersey Turnpike Authority*

Pike Run Riparian Mitigation Site. Project Manager for identification and selection of a riparian site including property owner coordination and land transfer documents. Other duties included obtaining permit approvals and overseeing design, planting and monitoring of the site. He also developed the planting plan and obtained NJDEP approval. *Client: Transco*

Stipson's Island Mitigation Bank, Cape May County, NJ. Task Manager for the development of a 35-acre tidal and freshwater mitigation bank. Managed technical studies, as well as approvals though a joint MBRT-Council process to address federal and state jurisdiction. Oversaw forested plant material installation.

Atlantic City Expressway Third Lane Widening. Project Manager for riparian zone mitigation for permanent and temporary impacts. Mitigation entails two mitigation sites of more than 60 acres in WMA-15. *Client: South Jersey Transportation Authority*

Morristown Municipal Airport Runway Alpha Bravo Mitigation. Task Manager for 137-acres of wetland mitigation in the Upper Passaic River Basin associated with permitted impacts resulting from runway improvements. Mitigation lands were acquired, evaluated and surveyed prior to approval by the Mitigation Council in Morris and Essex Counties. Lands include Natural Heritage Priority sites with documented T&E species. Lands transferred to the Natural Lands Trust.

Evergreen Nishisakawick Creek Mitigation Bank, Hunterdon County. Task Manager for a 13-acre wetland mitigation bank in Hunterdon County. The mitigation design restored wetlands and riparian zone buffer along a Category 1 stream in WMA-11. Credits were used for regional bridge projects.

Evergreen Great Egg Harbor River Mitigation Bank. Task Manager for a 103-acre wetland mitigation bank planting and implementation in Gloucester County, WMA-15 in the Pinelands Preservation Area. This mitigation bank preserved and restored wetland mitigation lands in a forested system along a Pinelands creek.

Tennessee Gas Pipeline 300 Line. Task Manager for full delivery wetland and riparian mitigation for a 16-mile gas pipeline in northern New Jersey. Secured mitigation sites, conducted site investigations, developed landscape concept plans, built and planted mitigation sites including creation of vernal habitat pools, and received all NJDEP approvals.

Evergreen Oldmans Creek Mitigation Bank. Project Manager for the design, planting and management of this 68-acre wetland and riparian zone mitigation bank located in Salem County, WMA 18. This wetland and riparian zone mitigation bank preserved previously farmed lands along a tributary of the Oldmans Creek and restored the area to a combination of forested wetland and grassland habitats.

Ryan J. Scerbo, Esq.
General Manager / General Counsel, Evergreen Environmental, LLC

Education
J.D., Pace University School of Law, 1999
B.S., Environmental Management, University of Rhode Island, 1996
Bar Admissions: New Jersey (1999) and New York (2000)

Prior to joining Evergreen in 2023, Mr. Scerbo was a Partner at the DeCotiis, FitzPatrick, Cole and Giblin, LLP law firm where was a member of the firm's Environmental Law and Green Practice Groups. Mr. Scerbo joined DeCotiis in 1999, became a Partner in 2003, and was elevated to equity partnership in 2011. Mr. Scerbo has represented a variety of public and private clients in matters ranging from transportation infrastructure, public procurement, complex multi-use developments, potable water treatment and supply, wastewater treatment, site remediation and renewable energy. Mr. Scerbo is experienced in applying for, obtaining, defending, appealing and complying with nearly every type of State and local environmental and land use permits and approvals, as well as many Federal environmental permits and approvals. Since joining Evergreen Mr. Scerbo has assisted with the following matters:

Evergreen Mill Creek Point Proposed Mitigation Bank – Mr. Scerbo has assisted with advancing this proposed 22-acre bank located in Secaucus, New Jersey through the review process administered by the Interagency Review Team (IRT), led by the Army Corps of Engineers. Mr. Scerbo has assisted with and participated in multiple meetings and site visits with the agencies that comprise the IRT. Presently, Mr. Scerbo is assisting with the preparation of a Mitigation Bank Prospectus necessary to advance this proposed bank closer to final approval.

Site Searches and Interactions with Landowners – Since joining Evergreen, Mr. Scerbo has been engaged in the search for new mitigation sites and potential bank locations in multiple regions of the State, reviewing nearly 100 sites and locating, contacting and interacting with landowners interested in working with Evergreen.

Examples of Mr. Scerbo's relevant experience prior to joining Evergreen include:

Garden State Parkway Milepost 30 to Milepost 80 Widening – This $800 million project consisted of the design and permitting of a third travel lane and shoulders northbound and southbound on the Garden State Parkway between South Toms River and Somers Point, equivalent to over 100 lane miles, as well as the construction of new bridge crossings over the Mullica and Bass Rivers. Mr. Scerbo, as the lead attorney for this project, worked closely with the Authority and its professional consultants over three years to obtain 14 State and Federal permits and approvals from nine State and Federal regulatory agencies, and multiple parcels of new right of way. Mr. Scerbo also assisted the Authority with a first of its kind procurement for comprehensive turnkey mitigation. The procurement and contracting structure required the full delivery acquisition, implementation and maintenance of more than 750 acres of mitigation, as well as a public access to the waterfront mitigation project at seven locations in Ocean, Burlington and Atlantic Counties, NJ.

New Jersey Turnpike Authority Interchange 6 to Interchange 9 Widening – Mr. Scerbo also served as lead legal counsel to the New Jersey Turnpike Authority in connection with the design and permitting of the $2.75 billion widening of the New Jersey Turnpike from Interchange 6 to Interchange 9. Mr. Scerbo worked closely with the Authority and its professional consultants to obtain multiple state permits and approvals and over 350 parcels of additional right of way, including Preserved Farmlands, Green Acres Property, and State-owned lands ahead of

schedule, one of the many factors that allowed the Authority to complete the project on-time and under budget.

Renewable Energy – Mr. Scerbo has been working with clients to pursue and secure long-term contracts for clean, reliable and inexpensive renewable energy since 2006. Some of Mr. Scerbo's more recent matters include: (1) **Rutgers University –** Mr. Scerbo assisted Rutgers with contracting and construction-related issues in connection with the development of 17 carport canopy solar arrays, totaling 14.8 MWs and offsetting millions of dollars in energy costs for the University, (2) **Duke Farm / Dorris Duke Foundation –** Mr. Scerbo assisted Duke Farms with the procurement and contracting for an innovative on-site ground-mounted solar renewable energy project paired with an on-site energy storage system, one of only a few such systems in the entire State, and (3) **Princeton Landfill –** Mr. Scerbo assisted the municipality of Princeton in devising a joint procurement with Stoney Brook Regional Sewerage Authority to utilize Princton's closed municipal landfill to house a 2.7 MW solar renewable energy project that feeds low-cost reliable power to the adjacent Sewerage Authority's facilities for 15 years. Under this approach Princeton receives a lease payment from a private solar developer to lease the space on the landfill for the solar project and the Sewerage Authority receives low-cost power for 15 years from the project, generating long-term revenue for Princeton and predictable energy savings for Stoney Brook. In all, Mr. Scerbo has assisted public and private clients with the procurement, contracting, financing, permitting and management of more than 625 MWs of ground-mounted, floating, rooftop and carport canopy solar renewable energy projects. In addition, Mr. Scerbo has assisted public and private clients with the procurement, financing, permitting and administration of energy savings improvement programs, offshore wind development, combined heat and power facilities, landfill waste gas to energy facilities and aggregated energy purchasing.

Open Space Acquisitions – Mr. Scerbo represented the municipality of Princeton in connection with the acquisition of critically important tracts of open space facing a significant threat of development. Several of these parcels comprise what is referred to as "Princeton's Emerald Necklace". One parcel, the 153-acre Lanwin Parcel representing the largest remaining undeveloped tract in Princeton, was acquired for $8.775 million following years of negotiations. Mr. Scerbo was also responsible for developing a multi-party agreement between Princeton and multiple nonprofit organizations, including The Watershed Institute, Friends of Princeton Open Space, The Ridgeview Conservancy, and New Jersey Conservation Foundation, to compile the funding necessary to complete the acquisition.

New Jersey Conservation Foundation – Mr. Scerbo assisted NJCF in connection with acquisition of land and easement for conservation, management and enforcement of easement terms and conditions, analysis of new legislation allowing commercial activities on preserved farmland easements, and development and evaluation of property usage policies related to access and hunting.

PUBLICATIONS/PRESENTATIONS

"Environmental Law Turning Toward the Sun", New Jersey Law Journal (July 2011)

"Local Renewables: An emerging Model for Green Power", Public Utilities Fortnightly (March 2010)

"Public-Private Partnership for Renewable Energy: A Case Study" New Jersey Law Journal (March 2010)

Linda Salvati, PWS, CWB
Senior Biologist, Evergreen Environmental, LLC

Education
M.S., Environmental Engineering Science, Pennsylvania State University, 1998
B.S., Wildlife and Fisheries Science, Pennsylvania State University, 1990
A.S., Animal Science, Manor Junior College, 1988
Professional Registrations/Certifications
Society of Wetland Scientists, Professional Wetland Scientist, #1698
Certified Wildlife Biologist, The Wildlife Society
Member: National Mitigation Banking Association

With more than 30 years of experience, Ms. Salvati is a Professional Wetland Scientist and biologist with Evergreen Environmental and is responsible for wetland and stream monitoring and mitigation, project permitting, design, and site maintenance. Areas of expertise include forested and freshwater systems, banking instrument development, and riparian buffer restoration. Ms. Salvati leads efforts in field studies, design plans, and Geographical Information Systems (GIS). She has been a Project Manager and consultant on various construction, planting, maintenance and management of wetland and stream mitigation projects in New Jersey and Pennsylvania. Examples of relevant experience include:

Evergreen MRI3 Mitigation Bank, Bergen County. Perform monitoring inspection of 51-acre tidal mitigation bank in the Hackensack Meadowlands. Prepare GIS graphics for report submissions.

Evergreen Wickecheoke Creek Mitigation Bank and Site, Hunterdon County. Project Manager for the development of a 46-acre parcel used as a riparian zone preservation turnkey project and a mitigation bank. Approximately 21 acres were allocated as riparian preservation for a bridge project. The remaining 25 acres are used a freshwater wetland and riparian zone mitigation bank. Oversight of stream restoration along an unnamed tributary to a Category 1 stream and planting of the bank site. Prepared MBI and Construction Completion reports. Responsible for construction and planting oversight, and annual monitoring/maintenance.

Evergreen Nishisakawick Creek Mitigation Bank, Hunterdon County. Task Manager for a 13-acre wetland mitigation bank in Hunterdon County. The mitigation design restored palustrine wetlands and riparian zone buffer along a Category 1 stream in WMA-11. Credits were used for bridge projects.

Evergreen Back Brook Mitigation Bank and Site, Hunterdon County. Project Manager for the development of a 27-acre parcel used as a wetland and riparian zone enhancement turnkey project and a riparian zone mitigation bank. Approximately 13 acres were allocated as wetland and riparian zone enhancement for a gas pipeline project. The remaining 14 acres are used a riparian zone mitigation bank. Prepared MBI and Construction Completion reports. Responsible for construction and planting oversight, and annual monitoring/maintenance.

Evergreen Abbot Creek Mitigation Bank, Cumberland County. Task Manager for a 250-acre wetland mitigation bank along Delaware Bay. Prepared MBI and Construction Completion reports. Oversight of bank construction and planting. The Bank has been permitted and the MBI approved to restore a diked tidal marsh and create 76 mitigation credits.

Evergreen Great Bay Mitigation Bank, Burlington County. Task Manager for a 108-acre federal wetland mitigation bank in Bass River. Prepared MBI and Construction Completion reports. Oversight of bank construction and planting. The Bank was built and planted in 2023 to restore a former confined disposal facility to tidal marsh and create 26 mitigation credits.

Evergreen Rio Grande Swamp Mitigation Bank, Cape May County. Task manager for 16-acre federal wetland mitigation bank in Cape May County. Prepared MBI and Construction Completion reports. Oversight of bank construction and planting. Perform annual monitoring and reporting. Oversight of threatened and endangered species surveys. The Bank has been permitted and the MBI approved for the restoration, creation, enhancement, and preservation of wetlands. The project also included construction of a vernal pool for the preservation of two state endangered amphibians.

Stipson's Island Mitigation Bank, Cape May County. Task Manager for the monitoring and maintenance of a 35-acre tidal and freshwater mitigation bank; the first approved in the Philadelphia District of the U.S. Army Corps of Engineers. Credits were used to mitigate for the Garden State Parkway 9, 10, 11 Interchanges Improvements project.

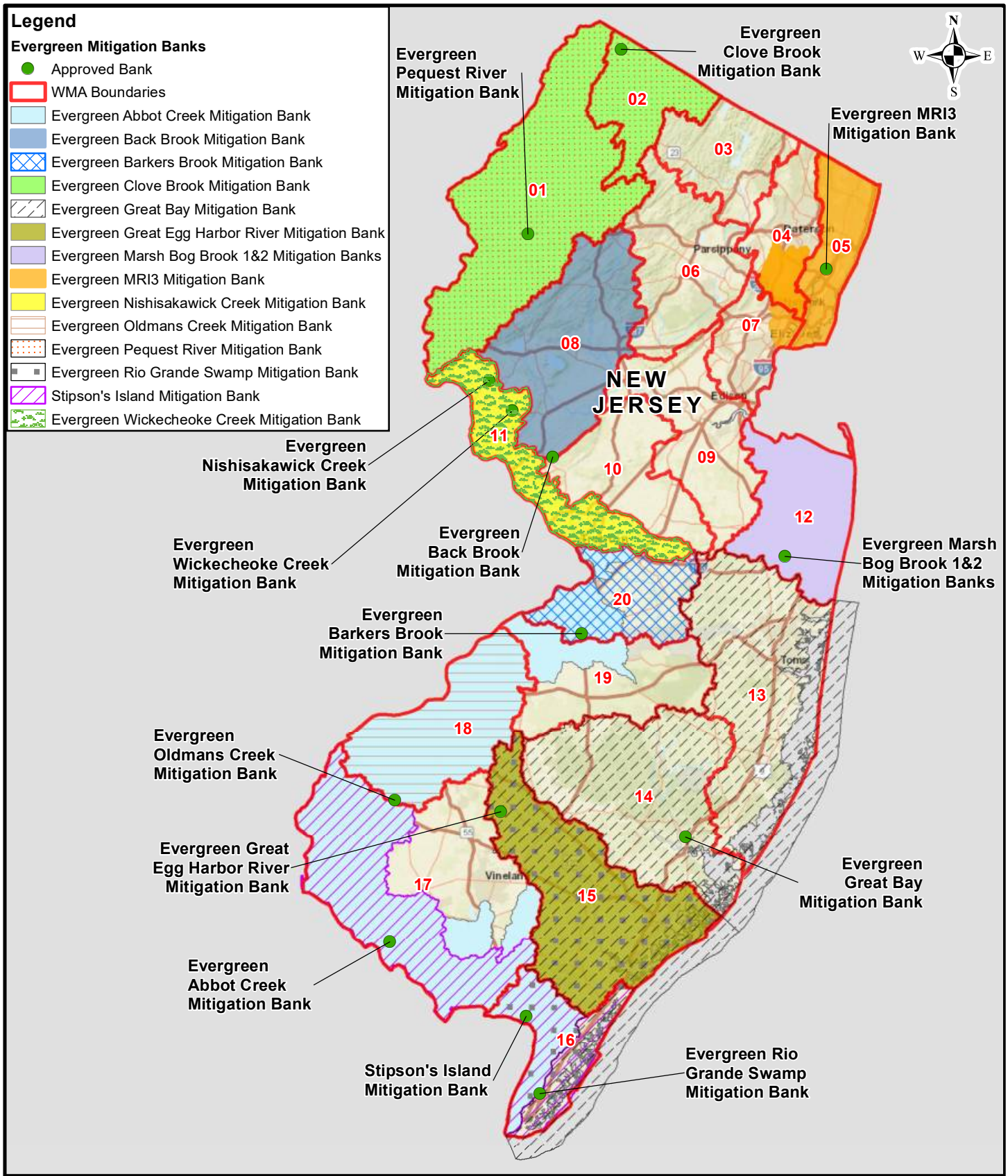
Evergreen Great Egg Harbor River Mitigation Bank, Gloucester County. Task Manager for a 103-acre wetland mitigation bank planting and implementation in Gloucester County, WMA-15 in the Pinelands Preservation Area. This mitigation bank preserved and restored wetland mitigation lands in a forested system along a Pinelands Creek. Credits were used to mitigate for the Atlantic City Expressway Widening.

Game Creek Mitigation Site, Salem County. Task Manager for 13-acres of wetland and riparian zone mitigation in southern New Jersey for permanent and temporary impacts associated with a gas pipeline project. Assisted in site search, project design, agency correspondence/meetings, and annual site monitoring/maintenance.

Tennessee Gas Pipeline 300 Line. Task Manager for full delivery wetland and riparian zone mitigation for a 16-mile gas pipeline in northern New Jersey. Conducted site investigations, assisted in design of several mitigation sites which included vegetative planting and habitat pool creation, and perform annual monitoring/maintenance of the sites.

Tennessee Gas NEUP Pipeline. Task Manager for wetland and riparian zone mitigation for permanent and temporary impacts. Project Manager for annual site monitoring and maintenance of multiple mitigation sites in New Jersey and Pennsylvania.

Mannington Mills Wetland Restoration, Salem County. Prepared NJDEP multi-permit application for an Individual Coastal Wetland permit and Freshwater Wetland General permit related with remedial activities within and adjacent to a tidal waterbody. Approximately 5 acres of coastal and freshwater wetlands were disturbed and restored in-place. Designed wetland restoration and creation plan to compensate for the impacts and monitored area in accordance with permit conditions.



EVERGREEN ENVIRONMENTAL

EVERGREEN ENVIRONMENTAL, LLC
MITIGATION BANKS
-
NEW JERSEY
SERVICE AREA OF APPROVED BANKS

20 10 0 10 20
Miles

FIGURE 8.1

Document Path: D:\E\GIS_Projects\Service Areas\ArcMap_Documents\NewJerseyMitigation_ServiceArea_ApprovedBanks.mxd