

**Raritan Bay and Sandy Hook Bay,  
Highlands, New Jersey  
Coastal Storm Risk Management  
Feasibility Study**

**Final Feasibility Report and Environmental  
Assessment**

**May 2020**

**Appendix A1:  
Essential Fish Habitat**

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# EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 3/2016)

**PROJECT NAME:** Raritan Bay and Sandy Hook Bay Highlands, New Jersey Coastal Storm Risk Management Feasibility Study and Environmental Assessment

**DATE:** 10/29/2019

**PROJECT NO.:**

**LOCATION (Water body, county, physical address):**

Sandy Hook Bay, Monmouth County, Highlands, NJ

**PREPARER:** Matthew Voisine

**Step 1:** Use [NOAA's EFH Mapper](#) to generate the list of designated EFH for federally-managed species and life stages for the geographic area of interest. Use this list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. The list can be included as an attachment to the worksheet. Make a preliminary determination on the need to conduct an EFH consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	Yes	No
<p><b>Is the action located in or adjacent to EFH designated for eggs?</b>  <b>List the species:</b>                      Winter Flounder, Ocean Pout, Atlantic Cod, Red Hake, Silver Hake, Yellowtail Flounder, Monkfish, Windowpane Flounder, Smoothhound Shark Complex (Atlantic Stock), Scup, Longfin Inshore Squid,</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Is the action located in or adjacent to EFH designated for larvae?</b>  <b>List the species:</b>                      Winter Flounder, Atlantic Herring, Atlantic Cod, Red Hake, Silver Hake, Yellowtail Flounder, Monkfish, Windowpane Flounder, Smoothhound Shark Complex (Atlantic Stock), Scup, Atlantic Butterfish, Summer Flounder,</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Is the action located in or adjacent to EFH designated for juveniles?</b>  <b>List the species:</b>                      Winter Flounder, Little Skate, Atlantic Herring, Red Hake, Yellowtail Flounder, Windowpane Flounder, Winter Skate, Clearnose Skate, Sandbar Shark, Smoothhound Shark Complex (Atlantic Stock), Sand Tiger Shark, Scup, Longfin Inshore Squid, Bluefish, Atlantic Butterfish, Summer Flounder, Black Sea Bass</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<p><b>Is the action located in or adjacent to EFH designated for adults or spawning adults? List the species:</b></p> <p>Winter Flounder, Little Skate, Ocean Pout, Atlantic Herring, Red Hake, Silver Hake, Yellowtail Flounder, Windowpane Flounder, Winter Skate, Clearence Skate, Sandbar Shark, Skipjack Tuna, Smoothhound Shark Complex (Atlantic Stock), Scup, Longfin Inshore Squid, Bluefish, Atlantic Butterfish, Ocean Quahog, Summer Flounder, Black Sea Bass</p>	<input checked="checked" type="checkbox"/>	<input type="checkbox"/>
<p>If you answered 'no' to all questions above, then an EFH consultation is not required - go to Section 5.</p> <p>If you answered 'yes' to any of the above questions, proceed to Section 2 and complete the remainder of the worksheet.</p>		

**Step 2:** In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Identify the sources of the information provided and provide as much description as available. These should not be yes or no answers. Please note that there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts. Project plans that show the location and extent of sensitive habitats, as well as water depths, the HTL, MHW and MLW should be provided.

2. SITE CHARACTERISTICS	
Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	The site is intertidal, sub-tidal, and water column.
What are the sediment characteristics?	USACE sediment sampling identified the sediments as zero to two or zero to four feet of pavement and/or manmade fill. Below the manmade fill, a layer of sand ranging from poorly graded sands, sands with silt, to silty sands, exist to a depth of 25 to 30-feet. Within this sand layer, some borings showed thin, non-continuous layers of silt or sands. These sands exhibit widely varying gradations (course to fine) and varying density (very loose to medium dense). Below the sands, a layer of fine grained soils, silts or clays exist to the bottom of the boring
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the SAV species and spatial extent.	There is no SAV at or near the project site.
Are there wetlands present on or adjacent to the site? If so, describe the spatial extent and vegetation types.	NWI mapping shows there are approximately 6 acres of marine and estuarine wetlands adjacent to and at the project site. There is minimal or no vegetation within the wetlands. The project line of protection impacts about 3 of the 6 acres. Mapping using NJDEP Geo-Web indicates a 1.1 acre vegetated dune communities wetland, between Valley Street and Cedar Avenue. The project line of protection impacts about half of the freshwater wetland.



<b>Is there shellfish present at or adjacent to the project site? If so, please describe the spatial extent and species present.</b>	Yes there is shellfish near the project site. NJDEP studies have identified that the project site is adjacent to hard clam habitat that was documented in 1983, 2000, and 2014. Reviewing west to southeast, along the shoreline: In 1983, the area was documented as occurrence (low density) and moderate density; In 2000, the area was documented as occurrence, moderate, and high density; In 2014, the area was documented as moderate and occurrence density. When reviewing the maps collectively, the entire project site is adjacent to moderate and/or high density hard clam habitat.
<b>Are there mudflats present at or adjacent to the project site? If so please describe the spatial extent.</b>	There are no mudflats at or near the project area.
<b>Is there rocky or cobble bottom habitat present at or adjacent to the project site? If so, please describe the spatial extent.</b>	There is no rocky or cobble bottom habitat at or near the site.
<b>Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so for which species, what type habitat type, size, characteristics?</b>	There is no HAPC at or near the site.
<b>What is the typical salinity, depth and water temperature regime/range?</b>	Based on NJDEP Marine Water Monitoring, Station 906A Salinity (ppt): range 30.8 – 12.7, average 24 Temperature (C°): range 26.5 – 3.0, average 13.9
<b>What is the normal frequency of site disturbance, both natural and man-made?</b>	Man-made disturbances are from human beach activities and boating. Typically occurring in the summer months. Natural disturbances are from the daily tidal fluctuations and from coastal storms.
<b>What is the area of proposed impact (work footprint &amp; far afield)?</b>	The project spans a geographic distance of approximately 8,000 linear feet along the coast of Highlands and ties into high ground (+14 ft NAVD88) at each end. Because the project follows the actual perimeter of the shoreline, its total length is 10,737 linear ft. The project includes a detention pond, diversion culverts, and a pump station for interior drainage. Project Feature Dimension T-Type Floodwall 9,362 lf, I-Type Floodwall 992 lf, Road Closure Gate (width) 55 lf, Pump Station 300 cfs, Detention Pond 1.6 acres, Pressurized Pipes 1,600 lf

**Step 3:** This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	Y	N	Description
Nature and duration of activity(s). Clearly describe the activities proposed and the duration of any disturbances.			The project spans a geographic distance of approximately 8,000 linear feet along the coast of Highlands and ties into high ground (+14 ft NAVD88) at each end. Because the project follows the actual perimeter of the shoreline, its total length is 10,737 linear ft. The project includes a detention pond, diversion culverts, and a pump station for interior drainage. Project Feature Dimension T-Type Floodwall 9,362 lf, I-Type Floodwall 992 lf, Road Closure Gate (width) 55 lf, Pump Station 300 cfs, Detention Pond 1.6 acres, Pressurized Pipes 1,600 lf
Will the benthic community be disturbed? If no, why not? If yes, describe in detail how the benthos will be impacted.			<p>The implementation of the proposed project is expected to have a direct, short-term impact on benthic resources. The construction of the floodwalls is expected to cover benthic organisms and cause some mortality. Benthic resources would begin to recolonize along the bulkheads immediately following the completion of each construction reach, and populations are expected to revert to pre-construction levels.</p> <p>There will be no long-term impacts on benthic resources as they are expected to return to pre-construction levels.</p>
	✓		
Will SAV be impacted? If no, why not? If yes, describe in detail how the SAV will be impacted. Consider both direct and indirect impacts. Provide details of any SAV survey conducted at the site.		✓	There is no SAV at or near the project site.
Will salt marsh habitat be impacted? If no, why not? If yes, describe in detail how wetlands will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?		✓	There is no salt marsh habitat at or near the project site.

<b>Will mudflat habitat be impacted? If no, why not? If yes, describe in detail how mudflats will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?</b>			<p>There are no mudflats at or near the project site.</p>
		✓	
<b>Will shellfish habitat be impacted? If so, provide in detail how the shellfish habitat will be impacted. What is the aerial extent of the impact? Provide details of any shellfish survey conducted at the site.</b>			<p>The proposed action is expected to have a direct, short-term, impact on shellfish. Sessile shellfish that are present in the immediate construction area such as the razor clam and blue mussel are likely to be buried. However, no shellfish with significant commercial or recreational importance were identified (NJDEP 2016). Motile shellfish would avoid the study area during construction and therefore would not be impacted. Upon construction completion, any shellfish that moved can return (Wilber and Clarke 1998).</p>
	✓		
<b>Will hard bottom (rocky, cobble, gravel) habitat be impacted at the site? If so, provide in detail how the hard bottom will be impacted. What is the aerial extent of the impact?</b>			<p>There is no hard bottom at or near the project site.</p>
		✓	
<b>Will sediments be altered and/or sedimentation rates change? If no, why not? If yes, describe how.</b>			<p>Sediments within the footprint of the floodwalls will be replaced with hard vertical surface. Sedimentation rates will not change as a result of the project.</p>
	✓		
<b>Will turbidity increase? If no, why not? If yes, describe the causes, the extent of the effects, and the duration.</b>			<p>There may be temporary and localized increases in turbidity during pile driving with installation of the floodwalls and bulkhead. In general, pile driving results in very minimal sediment resuspension, and any sediments will dissipate quickly with the tidal currents following the completion of pile driving. During upland installation, erosion and sediment control BMPs (e.g., turbidity curtain, shoring box) will minimize the discharge of sediments to the water.</p>
	✓		

<b>Will water depth change? What are the current and proposed depths?</b>			<p>The proposed project will not affect water depth as it is not adding or removing sediment from the bottom of the shoreline</p>
		✓	
<b>Will contaminants be released into sediments or water column? If yes, describe the nature of the contaminants and the extent of the effects.</b>			<p>There may be temporary resuspension of sediments and associated contaminants, if present, during installation of the bulkhead. Current analysis shows no containments along the proposed project footprint. Any resuspension will be minor, and sediments and associated contaminants will settle over similar substrate quickly after construction.</p>
	✓		
<b>Will tidal flow, currents, or wave patterns be altered? If no, why not? If yes, describe in detail how.</b>			<p>The proposed project will not alter tidal flow, currents, or wave patterns as the shoreline is currently bulkheaded and the buried seawall is mostly at mean high tide.</p>
		✓	
<b>Will water quality be altered? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration of the impact.</b>			<p>Installation of the floodwalls may result in temporary and localized increases in turbidity, resulting in a temporary effect to water quality. Any resuspended sediments will settle quickly upon cessation of these activities, and no permanent effects to water quality are expected as a result of the proposed project.</p>
		✓	
<b>Will ambient noise levels change? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration and degree of impact.</b>			<p>In-water construction will result in temporary increases in underwater noise from vessel activity and pile driving. The use any vessels for the duration of construction is an incremental increase in vessel activity in the area and will not result in significant adverse effects. Pile driving will be completed via vibratory hammer to the extent possible. If an impact hammer is necessary, a soft start and cushion block will be used. Elevated noise levels are not expected to reach the threshold for injury to fishes. Fish can avoid the ensonified portion of the water, representing a temporary loss of foraging habitat. However, similar habitat will continue to be available in the vicinity and this avoidance will not result in an adverse effect to EFH.</p>
	✓		
<b>Does the action have the potential to impact prey species of federally managed fish with EFH designations?</b>			<p>Sediment disturbance associated with bulkhead installation and vessel movement will result in minor, short-term increases in suspended sediment, which will dissipate with the currents. Fish and motile benthic organisms will be able to avoid the site during pile driving and will not be affected by the temporary increase in turbidity. The area shaded by construction vessels will be minimal and will not have an effect on prey species. The proposed project will result in the permanent loss of non-motile benthic organisms within the footprint of the floodwalls, approximately 10,000 linear feet. While burrowing benthos will no longer be available to predators within this footprint, there is similar foraging habitat in the vicinity.</p>
	✓		

**Step 4:** This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species (from the list generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. NOAA's EFH Mapper should be used during this assessment to determine the ecological parameters/ preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted
Will functions and values of EFH be impacted for:			
<b>Spawning</b> If yes, describe in detail how, and for which species. Describe how adverse effects will be avoided and minimized.			No significant impact from loss of benthic infaunal species because primary prey are more mobile epifaunal species and fish will relocate for food. Construction during spawning season will cause female winter flounder and windowpane to move to nearby unaffected areas to spawn, but should have no significant impact on egg production.
	✓		
<b>Nursery</b> If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.			Placement of outfall extension may cause mortality of demersal eggs in the spawning area for windowpane and flounders . Minimal impact expected. Loss of benthic infaunal prey organisms will cause larger juveniles (windowpane and flounders) to relocate to nearby, unaffected areas; smaller juveniles are less able to relocate and are vulnerable to mortality from construction activities.
	✓		
<b>Forage</b> If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.			The project will result in a minor temporary increase in suspended sediment and localized increases in turbidity during pile driving, which could impact bottom dwelling foragers (e.g., windowpane, summer flounder, winter flounder, skates). Any sediment disturbed during this time will dissipate quickly with the tidal currents. Pile driving will be temporary and intermittent and will minimize the effects of increased underwater noise through the use of a vibratory hammer. Once installed, the bulkhead may provide vertical hard surface for encrusting organisms, which may serve as prey for some fish.
	✓		
<b>Shelter</b> If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.			The proposed project may create limited shelter habitat for EFH among the bulkhead where there previously was none. This may provide some habitat for EFH species associated with shelter.
	✓		

<b>Will impacts be temporary or permanent? Please indicate in description box and describe the duration of the impacts.</b>			Temporary impacts include: increase in suspended sediment and turbidity during pile driving, vessel movement, increase in noise during pile driving, and increase in vessel traffic and shading. Temporarily elevated underwater noise and suspended sediment levels will result in avoidance of the area by some fish, but they are expected to return to the area following completion of pile driving. Permanent impacts include: loss of up to of bottom habitat in the footprint of the bulkhead. The loss of bottom habitat is minimal compared to the availability of similar habitat in the vicinity, and the bulkhead will provide vertical surface for encrusting organisms.
<b>Will compensatory mitigation be used? If no, why not? Describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation plan, if applicable.</b>			No compensatory mitigation will be used. Measures that will be implemented to minimize construction impacts include: use of a vibratory hammer to the extent possible and a soft start and cushion block if impact hammering is required in order to minimize underwater noise increases.
		<input checked="" type="checkbox"/>	

**Step 5:** This section provides the federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

Please note: if information provided in the worksheet is insufficient to allow NOAA Fisheries to complete the EFH consultation additional information will be requested.

5. DETERMINATION OF IMPACT		
Federal Agency's EFH Determination		
<b>Overall degree of adverse effects on EFH (not including compensatory mitigation) will be:</b>  (check the appropriate statement)	<input type="checkbox"/>	There is no adverse effect on EFH or no EFH is designated at the project site.  <b>EFH Consultation is not required.</b>
	<input checked="" type="checkbox"/>	The adverse effect on EFH is not substantial. This means that the adverse effects are either no more than minimal, temporary, or that they can be alleviated with minor project modifications or conservation recommendations.  <b>This is a request for an abbreviated EFH consultation.</b>
	<input type="checkbox"/>	The adverse effect on EFH is substantial.  <b>This is a request for an expanded EFH consultation.</b>

**Step 6: Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats as part of the Fish and Wildlife Coordination Act. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.**

<b>6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT</b>	
<b>Species known to occur at site (list others that may apply)</b>	<b>Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat). Please note, impacts to federally listed species of fish, sea turtles, and marine mammals must be coordinated with the GARFO Protected Resources Division.</b>
<b>alewife</b>	Given that alewife are pelagic, and neither spawning nor nursery habitat occurs within the project area, the proposed project will not adversely affect this species. Therefore, the proposed project will not have significant adverse effects on alewife.
<b>American eel</b>	Given that American eel are pelagic, and neither spawning nor nursery habitat occurs within the project area, the proposed project will not adversely affect this species. Therefore, the proposed project will not have significant adverse effects on American eel.
<b>American shad</b>	Given that American shad are pelagic, and neither spawning nor nursery habitat occurs within the project area, the proposed project will not adversely affect this species. Therefore, the proposed project will not have significant adverse effects on American shad.
<b>Atlantic menhaden</b>	Given that American menhaden are pelagic, and neither spawning nor nursery habitat occurs within the project area, the proposed project will not adversely affect this species. Therefore, the proposed project will not have significant adverse effects on American menhaden.
<b>blue crab</b>	The proposed project will result in a minimal and temporary increase in suspended sediment and localized increases in turbidity during installation of the bulkhead. Any temporary increase in suspended sediments and localized turbidity will dissipate upon the cessation of sediment disturbing activities. Blue crabs are motile and are not expected to be adversely impacted by installation activities. Noise from pile driving will be mitigated by driving via vibratory hammer to the extent possible. While blue crab will likely avoid the area of the bay ensounded during pile driving, they are expected to return following completion of pile driving. Therefore, the proposed project will not have significant adverse effects on blue crab.
<b>blue mussel</b>	Blue mussels may be present in the generally substrate in the proposed project, any blue mussels within the footprint of the bulkhead will be lost. Blue mussels may colonize the vertical surfaces of the bulkhead. The proposed project will result in a minimal and temporary increase in suspended sediment and localized increases in turbidity during installation of the bulkhead. Any temporary increase in suspended sediments and localized turbidity will dissipate upon the cessation of sediment disturbing activities. Therefore, the proposed project will not have significant adverse effects on blue mussel.
<b>blueback herring</b>	Given that blueback herring are pelagic, and neither spawning nor nursery habitat occurs within the project area, the proposed project will not adversely affect this species. Therefore, the proposed project will not have significant adverse effects on blueback herring.

<b>Eastern oyster</b>	There are no known natural or man-made oyster beds in the vicinity of the proposed project. The proposed project will result in a minimal and temporary increase in suspended sediment and localized increases in turbidity during installation of the bulkhead. Any temporary increase in suspended sediments and localized turbidity will dissipate upon the cessation of sediment disturbing activities. Therefore, the proposed project will not have significant adverse effects on eastern oyster.
<b>horseshoe crab</b>	The project area has minimal beach habitat and most likely does not provide habitat for horseshoe crabs and there is habitat near the project on Sandy Hook Peninsula and Atlantic Highlands. The proposed project will result in a minimal and temporary increase in suspended sediment and localized increases in turbidity during installation of the bulkhead. Any temporarily increased suspended sediments and localized turbidity will dissipate upon the cessation of sediment disturbing activities. Noise from pile driving will be mitigated via vibratory hammer to the extent possible. While horseshoe crab will likely avoid the area of the bay ensonified during pile driving, they are expected to return following completion of in-water construction. Therefore, the proposed project will not have significant adverse effects on horseshoe crab.
<b>quahog</b>	Any quahogs within the footprint of the bulkhead will be lost. Since this area represents a very small portion of available habitat within the bay, hard clams are expected to continue to colonize or recolonize in suitable habitat in the vicinity. The proposed project will result in a minimal and temporary increase in suspended sediment and localized increases in turbidity during installation of the bulkhead. Any temporary increase in suspended sediments and localized turbidity will dissipate upon the cessation of sediment disturbing activities. Therefore, the proposed installation will not have significant adverse effects on quahog.
<b>soft-shell clams</b>	Any soft-shell clams within the footprint of the bulkhead will be lost. Since this area represents a very small portion of available habitat within the bay, hard clams are expected to continue to colonize or recolonize in suitable habitat in the vicinity. The proposed project will result in a minimal and temporary increase in suspended sediment and localized increases in turbidity during installation of the bulkhead. Any temporary increase in suspended sediments and localized turbidity will dissipate upon the cessation of sediment disturbing activities. Therefore, the proposed installation will not have significant adverse effects on soft-shell clams.
<b>striped bass</b>	Given that striped bass are pelagic, and neither spawning nor nursery habitat occurs within the project area, the proposed project will not adversely affect this species. Therefore, the proposed project will not have significant adverse effects on striped bass.
<b>other species:</b>	



## Federal Interagency Comment Form

**PROJECT:** US Army Corps of Engineers  
Raritan Bay and Sandy Hook Bay  
Highlands, New Jersey  
Coastal Storm Risk Management Feasibility Study

**APPL. NUMBER:** N/A

**Commenting Agency:** NOAA Fisheries - HCD

**Project Manager:** Matthew Voisine

**Waterway/Location** Sandy Hook Bay  
Highlands, Monmouth Co., NJ

**Activity** Shore protection project that project follows the actual perimeter of 10,737 LF of shoreline and includes floodwalls, a street closure gate, a detention pond, diversion culverts, and a pump station for interior drainage.

### **ESSENTIAL FISH HABITAT (EFH)**

Project may adversely affect EFH.

**ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS** (Note: EFH CRs require a response from the federal action agency within 30 days of receipt or 10 days before a permit is issued if CRs are not included as a special condition of the permit. In addition, a distinct and further EFH consultation must be reinitiated pursuant to 50 CRF 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis for the above EFH determination or EFH conservation recommendations.)

1. Use appropriate best management practices during in-water work to minimum turbidity and encroachment into the bay.
2. If any work will be conducted from barges or other vessels, they should float at all stages of the tide.
3. Provide compensatory mitigation for any unavoidable impacts to wetlands in accordance with the 2008 mitigation rules and NJDEP regulations.

### **FISH AND WILDLIFE COORDINATION ACT COMMENTS**

See above:

SIGNATURE: Karen Greene DATE: 01/14/2020



REPLY TO  
ATTENTION OF  
Environmental Analysis Branch

**DEPARTMENT OF THE ARMY**  
U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT  
JACOB K. JAVITS FEDERAL BUILDING  
26 FEDERAL PLAZA  
NEW YORK NEW YORK 10278-0090

January 23, 2020

Ms. Karen Greene  
Mid-Atlantic Field Office Supervisor and EFH Coordinator  
National Marine Fisheries Service  
James J. Howard Marine Sciences Laboratory  
74 Magruder Road  
Highlands, NJ 07732

Dear Ms. Greene,

The U.S. Army Corps of Engineers, New York District (District) received your comment letter dated January 14, 2020, regarding Essential Fish Habitat Conservation Recommendations (EFH CR) for the Raritan Bay and Sandy Hook Bay Highlands, New Jersey Coastal Storm Risk Management Feasibility Study. The District has reviewed the CRs and is providing the following responses to the CRs below.

**NOAA –Fisheries HCD Conservation Recommendations:**

1. Use appropriate best management practices during in-water work to minimize turbidity and encroachment into the bay.  
Response: The District agrees with the CR. The District will use best management practices such as turbidity curtains to minimize sediment transportation into the bay.
2. If any work will be conducted from barges or other vessels, they should float at all stages of the tide.  
Response: The District does not anticipate work to occur from vessels on the bay, however, if it does, the District will ensure that all vessels float during all tide stages.
3. Provide compensatory mitigation for any unavoidable impacts to wetlands in accordance with the 2008 mitigation rules and NJDEP regulations.  
Response: The District has determined that approximately 0.75 acres of freshwater wetlands will be permanently impacted with the construction of the floodwall. Plans call for mitigation through the purchase of mitigation credits at a wetland bank within the Wetland Management Area. The District has coordinated this plan with New Jersey Department of Environmental Protection and the U. S. Fish and Wildlife Service. The District will continue to coordinate with these two agencies and NOAA – Fisheries HCD during the pre-engineering and design phase of the project.

Thank you for your continued coordination with this project. Should you have any questions please contact the project biologist, Matthew Voisine, by phone (917) 790-8718, or by email at [matthew.voisine@usace.army.mil](mailto:matthew.voisine@usace.army.mil).

Sincerely,

WEPPLER.PETER  
.M.1228647353

Digitally signed by  
WEPPLER.PETER.M.1228647353  
Date: 2020.01.23 13:09:34  
-05'00'

Peter Weppler, Chief  
Environmental Analysis Branch

# **Raritan Bay and Sandy Hook Bay, Highlands, New Jersey Coastal Storm Risk Management Project**

## **Feasibility Study**

**Final Integrated Feasibility Report  
and Environmental Assessment  
February 2020**

**Appendix A2:  
Coastal Zone Act Consistency Statement**

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**New Jersey Coastal Zone Management Evaluation  
Highlands Coastal Storm Risk Management Feasibility Study  
Monmouth County, New Jersey**

**INTRODUCTION**

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. §§1451-1466) was enacted by Congress in an effort to balance the often competing demands of growth and development with the protection of coastal resources. Its stated purpose is to "...preserve, protect, develop, where possible, to restore or enhance, the resources of the nation's coastal zone..." The Act established the framework for achieving this balance by encouraging the states to develop coastal zone management programs, consistent with minimum federal standards, designed to regulate land use activities that could impact coastal resources. The Coastal Zone Act Reauthorization Act Amendments of 1990 further strengthened the act by requiring the state programs to focus more on controlling land use activities and the cumulative effects of activities within designated coastal zones.

The State of New Jersey administers its federally approved coastal zone program through the Department of Environmental Protection, Land Use Regulation Program (LURP). Pursuant to the Federal CZMA, New Jersey has defined its coastal zone boundaries and developed policies to be utilized to evaluate projects within the designated coastal zone, as set forth in New Jersey's Rules on Coastal Zone Management (CZM) (N.J.A.C. 7:7, dated July 15, 2019). The Waterfront Development Law (N.J.S.A. 12:5-3) and related requirements (N.J.A.C. 7:7-3) provide the authority for issuance of permits for, among other activities the reconstruction (with or without expansion) of single-family homes.

The State's Land Use Regulation Program in the review of permit applications and coastal decision-making employs New Jersey's rules on Coastal Zone Management; they address issues of location, use, and resources. New Jersey's rules provide for a balance between economic development, and coastal resource protection, recognizing that coastal management involves explicit consideration of a broad range of concerns, in contrast to other resource management programs that have a more limited scope of concern.

The Highlands project site is located within the coastal zone of New Jersey. The following assessment identifies the coastal zone management policies relevant to the proposed coastal storm risk management project.

The proposed project is a coastal storm risk management project involving approximately 8,000 linear feet along the coast of the borough of Highlands, NJ and ties into high ground (+14 ft. NAVD88) at each end. Because the project follows the actual perimeter of the shoreline, its total length is 10,737 linear ft. The project includes a detention pond, diversion culverts, and a pump station for interior drainage.

## **DISCUSSION OF NEW JERSEY COASTAL ZONE MANAGEMENT POLICIES APPLICABLE TO THE PROPOSED PROJECT**

The following section identifies the New Jersey CZM policies, identifies how they are applicable to the proposed project, and discusses the project issues relevant to each.

### **SUBCHAPTER 9. SPECIAL AREAS**

#### **7:7-9.1 Purpose and scope**

Special areas are areas that are so naturally valuable, important for human use, hazardous, sensitive to impact, or particular in their planning requirements, as to merit focused attention and special management rules.

#### **7:7-9.2 Shellfish habitat**

This policy generally limits disturbance of shellfish habitat.

NJDEP studies have identified that the project site is adjacent to hard clam habitat that was documented in 1983, 2000, and 2014. Reviewing west to southeast, along the shoreline: In 1983, the area was documented as occurrence (low density) and moderate density. In 2000, the area was documented as occurrence, moderate, and high density. In 2014, the area was documented as moderate and occurrence density. When reviewing the maps collectively, the entire project site is adjacent to moderate and/or high-density hard clam habitat. The proposed project will have no adverse permanent impacts to shellfish as most of the project is above mean high water and not in shellfish habitat but near shellfish habitat.

#### **7:7-9.3 Surf clam areas**

This policy prohibits development that would destroy or contaminate surf clam areas.

This policy prohibits development that would destroy or contaminate surf clam areas. Surf clams inhabit waters from 30-160 feet deep. The project area is in shallow waters along the shoreline. Actions of the project will not occur in or affect any surf clam areas; therefore, this policy is not applicable.

#### **7:7-9.4 Prime fishing areas**

This policy prohibits sand or gravel submarine mining, which would alter existing bathymetry in a manner that would significantly reduce high fishery productivity in prime fishing areas. Prime fishing areas include tidal water areas and water's edge areas which have a demonstrable history of supporting a significant local intensity of recreational or commercial fishing activity in addition to areas identified in "New Jersey's Recreational and Commercial Fishing Grounds of Raritan Bay, Sandy Hook Bay and Delaware Bay and the Shellfish Resources of Raritan Bay and Sandy Hook Bay" by Figley and McCloy (1988) and those areas identified on the map titled, "New Jersey's Specific Sport Ocean Fishing Grounds".

The proposed project is not located in a prime fishing area as defined above nor does the proposed project involve any sand or gravel mining. Therefore, this policy is not applicable.

#### **7:7-9.5 Finfish migratory pathways**

This policy prohibits development such as dams, dikes, spillways, channelization, tide gates, and intake pipes that would create physical barriers to migratory fish or degrade water quality such that it interferes with fish movement.

The proposed project would not create permanent physical barriers to migratory fish nor would it degrade water quality. Erosion and sediment control best management practices will be implemented during construction to minimize impacts to water quality. The proposed project will have no permanent adverse impacts to water quality. Therefore, the proposed project complies with this policy.

#### **7:7-9.6 Submerged vegetation habitat**

This policy prohibits or restricts development at or near submerged vegetation habitats unless compensation efforts establish self-sustaining habitat for the appropriate species. As defined by the State, submerged vegetation consists of an area that supports or is documented as supporting rooted, submerged vascular plants such as widgeongrass (*Ruppia maritima*), sago pondweed (*Stuckenia pectinata*), horned pondweed (*Zannichellia palustris*), and eelgrass (*Zostera marina*). N.J.A.C. 7:7-9.6 states that in New Jersey, submerged vegetation is most prevalent in the shallow portions of the Navesink, Shrewsbury, Manasquan, and Metedeconk Rivers, and in Barnegat, Manahawkin, and Little Egg Harbor Bays.

Based on a review of “New Jersey Submerged Aquatic Vegetation Distribution” mapping, this policy is not applicable since the proposed project is not located in water areas supporting or documented as previously supporting rooted, submerged vascular plants.

#### **7:7-9.7 Navigation channels**

This policy prohibits construction that would extend into a navigation channel or would result in the loss of navigability. This policy discourages the placement of structures within 50 feet of any authorized navigation channel, unless it can be demonstrated that the proposed structure will not hinder navigation. This policy requires appropriate mitigation measures for development, which would cause terrestrial soil and shoreline erosion and siltation in navigation channels.

The Shrewsbury River within the project area does not have a constructed navigation channel. However, it is navigable for small watercraft. All elements of the proposed project are located on land, and are therefore in compliance with this policy.

#### **7:7-9.8 Canals**

This policy prohibits actions that would interfere with boat traffic in canals used for navigation, defined as navigation channels for boat traffic through land areas, which are



created by cutting and dredging or other human construction technique sometimes enlarging existing natural surface water channels.

This policy is not applicable because the proposed project does not involve or affect navigation canals used for boat traffic through land areas.

#### **7:7-9.9 Inlets**

This policy prohibits filling and discourages submerged infrastructure in inlets, which are natural channels through barrier islands allowing movement of fresh and salt water between the ocean and the back-bay system.

This policy is not applicable because the proposed project will not impact any inlets as defined above.

#### **7:7-9.10 Marina moorings**

This policy prohibits non-water dependent development in marina mooring areas and discourages any use that would detract from existing or proposed recreational boating use in marina mooring areas.

This policy is not applicable since the proposed project does not involve development in any marina mooring areas nor does it detract from existing or proposed recreational boating use in marina mooring areas.

#### **7:7-9.11 Ports**

This policy prohibits actions that would preempt or interfere with port uses. Ports are water areas having, or lying immediately adjacent to, concentrations of shoreside marine terminals and transfer facilities for the movement of waterborne cargo (including fluids), and including facilities for loading, unloading and temporary storage.

This policy is not applicable since the proposed project is not located in a port.

#### **7:7-9.12 Submerged infrastructure routes**

This policy prohibits any activity that would increase the likelihood of submerged infrastructure damage or breakage, or interfere with maintenance operations.

There is an existing natural gas pipeline in the western-most footprint of the proposed levee. This pipeline runs perpendicular to the levee, therefore only a small portion of the pipeline will be affected. As part of construction of the levee, the Corps will modify the pipeline to extend emergency shut off valves outside of the levee footprint and the 15 feet no vegetation zone in order to maintain emergency access to the pipeline. Therefore, the proposed project complies with this policy.

#### **7:7E-9.13 Shipwreck and artificial reef habitats**

This policy restricts the use of areas with shipwrecks and artificial reefs that would adversely affect the usefulness of the area as a fisheries resource.

This policy is not applicable since there are no shipwrecks or artificial reef habitats in the proposed project area.

#### **7:7-9.14 Wet borrow pits**

Wet borrow pits are scattered artificially created lakes that are the results of surface mining for coastal minerals extending below groundwater level to create a permanently flooded depression. This includes, but is not limited to, flooded sand, gravel, and clay pits, and stone quarries. Where a wet borrow pit is also a wetland and/or wetlands buffer, the wetlands rule, N.J.A.C. 7:7-9.27, and/or wetlands buffers rule, N.J.A.C. 7:7-9.28, shall apply.

This policy is not applicable since the proposed project does not contain nor will make use of any wet borrow pits.

#### **7:7-9.15 Intertidal and subtidal shallows**

This policy discourages disturbance of shallow water areas (all permanently or temporarily submerged areas from the spring high water line to a depth of four feet below mean low water).

The buried seawall and floodwall will be partially constructed within the intertidal and subtidal shallows. However, the construction will be built in accordance with this rule. As well, the proposed project is in the interest of public safety. Additionally, the proposed project is compatible with existing land and water uses and is consistent with the filling rule (N.J.A.C. 7:7-12.11). Therefore, the project would be consistent with this policy.

#### **7:7-9.16 Dunes**

This policy prohibits development on dunes and removal of vegetation from dunes. A dune is a wind or wave deposited or man-made formation of sand (mound or ridge), that lies generally parallel to, and landward of, the beach and the foot of the most inland dune slope.

The project will create a reinforced dune, which will be planted with native vegetation. provide long-term protection. Therefore, the project would be consistent with this policy.

#### **7:7-9.17 Overwash areas**

This policy restricts development in over-wash areas, an area subject to accumulation of sediment, usually sand, that is deposited landward of the beach or dune by the rush of water over the crest of the beach berm, a dune or a structure.

The project involves construction of coastal storm risk management methods. The plan does not include or encourage development in any overwash areas. The project involves acceptable coastal storm risk management activities including restoration of overwash areas; therefore, the selected plan would be consistent with this policy.

#### **7:7-9.18 Coastal high hazard areas**

This policy restricts development in coastal high hazard areas, flood prone areas subject to high velocity waters as delineated on FEMA maps and areas within 25 feet of oceanfront shore protection structures, which are subject to wave run-up and overtopping. The coastal high hazard area is identified as Zone V on Flood Insurance Rate Maps (FIRMs).

Based on a review of FEMA Flood Insurance Rate Maps, the proposed project area is located in Zone VE and some in AE. The project involves construction of coastal storm risk management methods. The plan does not include or encourage development in any coastal high hazard area. The project involves acceptable coastal storm risk management activities including restoration of erosion hazard areas; therefore, the selected plan would be consistent with this policy.

#### **7:7-9.19 Erosion hazard areas**

This policy prohibits development in erosion hazard areas under most circumstances, to protect public safety. Erosion hazard areas are shoreline areas that are eroding and/or have a history of erosion, causing them to be highly susceptible to further erosion, and damage from storms.

The project does not include or encourage development in an erosion hazard area. The project will comply with coastal engineering rule, N.J.A.C. 7:7-15.11; involves acceptable coastal storm risk management activities including restoration of erosion hazard areas; therefore, the selected plan would be consistent with this policy.

#### **7:7-9.20 Barrier island corridor**

This policy restricts new development on barrier islands. Barrier island corridors are the interior portions of oceanfront barrier islands, spits, and peninsulas.

The borough of Highlands is not within a barrier island corridor; therefore, this policy does not apply.

#### **7:7E-9.21 Bay islands**

This policy restricts development on bay islands, islands or filled areas surrounded by tidal waters, wetlands, beaches, or dunes, lying between the mainland and barrier island.

The project does not contain any bay islands; therefore, this policy does not apply.

#### **7:7-9.22 Beaches**

This policy restricts development on beach areas. Beaches are gently sloping areas of sand or other unconsolidated material, found on all tidal shorelines, including ocean, bay, and river shorelines that extend landward from the mean high water line.

The project involves beach and dune restoration and planting of vegetation for dune stabilization. These are all acceptable activities that will meet the conditions listed within

this coastal zone management plan; therefore, the project would be consistent with this policy.

#### **7:7-9.23 Filled water's edge**

This policy seeks to promote water dependent uses at areas along the waterfront that have been previously filled. Filled water's edge areas are existing filled areas lying between wetlands or water areas, and either the upland limit of fill, or the first paved public road or railroad landward of the adjacent water area, whichever is closer to the water.

The proposed activities will not reduce or adversely affect the area currently or recently devoted to any water dependent use and complies with the Public Access rule (N.J.A.C. 7:7- 16.9) as public access to the waterfront will be maintained by creating walkovers and reconstructing existing access. Therefore, the selected plan is consistent with this policy.

#### **7:7-9.24 Existing lagoon edges**

This policy restricts development at lagoon edges. Existing lagoon edges are defined as existing manmade land areas resulting from the dredging and filling of wetlands, bay bottom, and other estuarine water areas for the purpose of creating waterfront lots along lagoons for residential and commercial development.

This policy is not applicable since the proposed project is not located along any lagoon edges.

#### **7:7-9.25 Flood hazard areas**

This policy is designed to restrict development in flood hazard areas to ensure that the waterfront is not pre-empted by uses that could function equally at inland locations. The goal of this rule is to reduce losses of life and property resulting from unwise development of flood hazard areas, and allow uses compatible with periodic flooding. Flood hazard areas are areas subject to flooding from the flood hazard area design flood, as defined by NJDEP under the Flood Hazard Area Control Act rules at N.J.A.C. 7:13. Flood hazard areas include those areas mapped as such by the NJDEP, areas defined or delineated as an A or a V zone by the FEMA, and any unmapped areas subject to flooding by the flood hazard area design flood.

The proposed project is located in Flood Zone VE and AE. Since the proposed project is a coastal storm risk management project involving the implementation of a bulkhead and buried seawall, the project is compatible with this policy.

#### **7:7-9.26 Riparian zones**

This policy restricts development in riparian zones around regulated waters.

The proposed project is within and along the Atlantic Ocean and therefore, this policy is not applicable.

#### **7:7-9.27 Wetlands**

This policy restricts disturbance in wetland areas and requires mitigation if wetlands are destroyed or disturbed.

The proposed buried seawall and floodwalls will permanently impact approximately 1 acre of freshwater wetlands. Approximately another 1 acre of wetlands will be temporarily impacted by construction of the buried seawall and floodwalls. There are also marine and estuarine mapped wetlands. However, these mapped wetlands do not contain vegetation and would not be delineated as wetlands. During Preconstruction Engineering and Design (PED) phase, a complete delineation will be conducted.

The temporarily impacted wetlands and buffers will be restored after construction and the permanently impacted freshwater wetland will be mitigated for utilizing a mitigation bank. All permits will be applied for after the project is authorized for construction and during the PED.

#### **7:7-9.28 Wetland buffers**

This policy restricts development in wetland buffer areas in order to protect wetlands.

The proposed alignment is located within the 150 feet wetland buffer area. The majority of the wetland buffer area has already been modified by development. However, temporary impacted wetlands and buffers will be restored and permanently impacted areas will be mitigated through the purchase of mitigation credits.

#### **7:7-9.29 Coastal bluffs**

This policy restricts development on coastal bluffs.

This policy is not applicable since the proposed project is not located along any coastal bluffs.

#### **7:7-9.30 Intermittent stream corridors**

This policy restricts actions in intermittent stream corridors.

This policy is not applicable since the proposed project is not located in intermittent stream corridors.

#### **7:7-9.31 Farmland conservation areas**

This policy seeks to maintain and protect large parcels of land used for farming for farming or farm dependent uses.

This policy is not applicable since the proposed project is not located near or on farmland conservation areas.

#### **7:7-9.32 Steep slopes**

This policy seeks to preserve steep slopes by restricting development in such areas.

This policy is not applicable since the proposed project is not located on steep slopes. The topography within the project area is relatively flat, with significant slopes limited to the proposed levee.

#### **7:7-9.33 Dry borrow pits**

This policy restricts the use and provides maintenance of dry borrow pits within acceptable limits.

This policy is not applicable since the proposed project is not located near dry borrow pit areas.

#### **7:7E-9.34 Historic and archaeological resources**

This policy protects the value of historic and archaeological resources and may require cultural resource surveys and other protective measures.

Cultural resource surveys and coordination with the New Jersey Historic Preservation Office carried out for this study determined there are no archaeological resources within the shoreline protection portion of this project. However, there are portions of the project area where the project alignment has shifted and these areas will be evaluated in the Preconstruction, Engineering and Design (PED) Phase as stipulated in the Programmatic Agreement drafted to address all potential effects. There are several historic structures within the project area however; none of these will be directly impacted by the project. An assessment of the project's effect to their setting and viewsheds will also be undertaken as stipulated in a Programmatic Agreement. This project is consistent with this policy

#### **7:7-9.35 Specimen trees**

This policy seeks to protect specimen trees.

This policy is not applicable since the proposed project does not contain any known specimen trees.

#### **7:7-9.36 Endangered or threatened wildlife or plant species habitats**

This policy restricts development in endangered or threatened wildlife or vegetation species habitat areas.

Endangered or threatened wildlife or plant species habitats are terrestrial and aquatic (marine, estuarine, or freshwater) areas known to be inhabited on a seasonal or permanent basis by or to be critical at any stage in the life cycle of any wildlife or plant identified as "endangered" or "threatened" species on official federal or state lists of endangered or threatened species, or under active consideration for state or federal listing. The definition of endangered or threatened wildlife or plant species habitats includes a sufficient buffer area to ensure continued survival of the population of the species as well as areas that serve an essential role as corridors for movement of endangered or threatened wildlife. Absence of such a buffer area does not preclude an area from being endangered or threatened wildlife or plant species habitat.

Development of endangered or threatened wildlife or plant species habitat is prohibited unless it can be demonstrated, through an endangered or threatened wildlife or plant species impact assessment as described at N.J.A.C. 7:7-11, that endangered or threatened wildlife or plant species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected.

Based on an official Endangered and Threatened species list the District obtained from the U.S. Fish and Wildlife Service, there is the potential for the federally threatened northern long-eared bat (*Myotis septentrionalis*), federally threatened piping plover (*Charadrius melodus*), federally threatened red knot (*Calidris canutus rufa*), and the federally threatened seabeach amaranth (*Amaranthus pumilus*) to occur within the project area. The District has determined there is “No effect” on the federally threatened northern long-eared bat, a “May affect, but is not likely to adversely affect” on the federally threatened piping plover, a “May affect, but is not likely to adversely affect” on the federally threatened red knot, and a “May affect, but is not likely to adversely affect” on the federally threatened seabeach amaranth.

There are no reported piping plovers within the project alignment. Most of the project alignment is along existing bulkhead that does not provide beach habitat for piping plovers. The little beach areas that do exist do not provide habitat for piping plovers. The beaches are very small, surrounded by homes or commercial buildings, and provide no foredune or washover areas. However, there are breeding piping plovers nearby on Sandy Hook beaches about a ¼ of a mile away from the project alignment. The use of vibratory pile driving may provide noise disturbance to the piping plovers. Current design level does not detail the type of pile driving, materials, or duration. During the Preconstruction Engineering and Design phase of the project, the District will coordinate with the Service in order to mitigate any noise impacts (dBA at nest cannot exceed 6dBA higher than ambient level). Such measures may include but are not limited to construction windows and noise dampening measures.

The District will survey for seabeach amaranth one week prior to construction on the beaches during the growing season (May 15 – Nov 30). If any seabeach amaranth plants are identified, the District will install string-and-post fencing to allow a 3-meter buffer around each plant or group of plants. Fencing will be marked with flagging and signs. No intrusions (including personnel, equipment, or materials) will be allowed within fenced areas. Surveys and fencing will be coordinated with the Service before and during the construction period.

There are no mitigation measures proposed for the northern long-eared bat and red knot.

Coordination with National Oceanic and Atmospheric Administration (NOAA) – Fisheries identified the endangered Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*), endangered shortnose sturgeon (*Acipenser brevirostrum*), endangered leather back sea turtle (*Dermochelys coriacea*), endangered loggerhead sea turtle (*Caretta caretta*), endangered Kemp’s ridley sea turtle (*Lepidochelys kempii*), endangered green sea turtle (*Chelonia mydas*), endangered North Atlantic right whale (*Eubalaena glacialis*), and endangered fin whale (*Balaenoptera physalus*).

In accordance with the 2017 Not Likely to Adversely Affect Programmatic Consultation, with NOAA – Fisheries, the District has determined that the proposed project complies with all applicable project design criteria and is not likely to adversely affect listed species

Based on a review of NJDEP Landscape 3.3, the project area is within suitable foraging habitat for the State endangered, black skimmer (*Rynchops niger*), State special concern, common tern, (*Sterna hirundo*), State endangered, least tern (*S. antillarum*), state threatened, osprey (*Pandion haliaetus*), State threatened, black-crowned night heron (*Nycticorax nycticorax*) and State special concern silver-haired bat (*Lasionycteris noctivagans*).

Houses and other buildings surround the project area. The beach habitat that does exist for the above listed species is very small: in about five 1 acres beaches, bisected by development. In a 2016 letter, NJ Division of Fish and Wildlife (NJDFW) – Endangered and Nongame Species stated no concerns for the above listed bird species. The District will follow the recommendation to conduct tree clearing only in the winter months for the silver-haired bat. The District will continue to coordinate with U. S. Fish and Wildlife Service (USFWS), NOAA –Fisheries and NJD

Therefore, the proposed project is compliant with this policy. The District will continue to coordinate with USFWS, NOAA –Fisheries and NJDFW – Endangered and Nongame Species

#### **7:7-9.37 Critical wildlife habitats**

This policy discourages development that would adversely affect critical wildlife habitat. Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating. Definitions and maps of critical wildlife habitats are currently available only for colonial waterbird habitat in the 1979 Aerial Colony Nesting Waterbird Survey for New Jersey. Other sites are considered on a case-by- case basis by the Division of Fish and Wildlife.

Development that will directly or through secondary impacts on the relevant site or in the surrounding region adversely affect critical wildlife habitats is discouraged, unless: minimal feasible interference with the habitat can be demonstrated; there is no prudent or feasible alternative location for the development; and the proposal includes appropriate mitigation measures.



The proposed project is not known to serve as critical wildlife habitat as defined by the state of New Jersey. Therefore, the proposed project complies with this policy.

#### **7:7-9.38 Public open space**

This policy encourages new public open spaces and discourages development that might adversely affect existing public open space. Public open space refers to lands owned or maintained by federal, state, or local agencies and which are dedicated to the conservation of public recreation, natural resources, visual or physical public access, and/or the protection and management of wildlife.

Development that adversely affects existing public open space is discouraged. Development within existing public open space is conditionally acceptable, provided that the development is consistent with the character and purpose of public open space, as described by the park master plan when such a plan exists. All new development adjacent to public open space will be required to provide an adequate buffer area.

A portion of the proposed project is located within the borough of Highlands, Veterans Memorial Park. The park includes a playground, basketball court, and a memorial. The basketball court and playground will not be impacted. The memorial will be elevated as a levee but still maintain the memorial.

The project would serve to protect public open space from coastal storm and hurricanes. Therefore, the proposed project is consistent with this policy.

#### **7:7-9.39 Special hazard areas**

This policy discourages development in hazard areas. Special hazard areas include areas with a known actual or potential hazard to public health, safety, and welfare, or to public or private property, including areas where hazardous substances are used or disposed, including adjacent areas and areas of hazardous material contamination.

This policy is not applicable since the proposed project does not affect special hazard areas.

#### **7:7-9.40 Excluded federal lands**

Excluded federal lands are those lands, the use of which is, by law, subject solely to the discretion of, or held in trust by the federal government, its officers, or agents. New Jersey has the authority to review activities on Federal lands if impacts may occur in New Jersey's Coastal Zone.

This policy is not applicable since the proposed project is not on the list of Excluded Federal Lands.

#### **7:7-9.41 Special urban areas**

This policy seeks to encourage development that would help to restore the economic and social viability of certain municipalities that receive state aid. Special urban areas

are those municipalities defined in urban aid legislation (N.J.S.A.52:27D178) qualified to receive state aid to enable them to maintain and upgrade municipal services and offset local property taxes.

This policy is not applicable since the proposed project is not located in special urban areas.

#### **7:7-9.42 Pinelands National Reserve and Pinelands Protection Area**

This policy allows the Pinelands Commission to serve as the reviewing agency for actions within the Pinelands National Reserve.

This policy is not applicable since the proposed project is not within the Pinelands National Reserve.

#### **7:7-9.43 Meadowlands District**

This policy allows the Meadowlands Development Commission to serve as the reviewing agency for actions within the Meadowlands District.

This policy is not applicable since the proposed project is not within the Meadowlands District.

#### **7:7-9.44 Wild and scenic river corridors**

This policy recognizes the outstanding value of certain rivers in New Jersey by restricting development to compatible uses. Wild and scenic river corridors are all rivers designated into the National Wild and Scenic Rivers System and any rivers or segments thereof being studied for possible designation into that system pursuant to the National Wild and Scenic Rivers Act (16 U.S.C. 1271-1278).

This policy is not applicable since the proposed project is not located in any Wild and Scenic River Corridor.

#### **7:7-9.45 Geodetic control reference marks**

This policy discourages the disturbance of geodetic control reference marks. Geodetic control reference marks are traverse stations and benchmarks established or used by the New Jersey Geodetic Control Survey pursuant to P.L. 1934, c.116. They include monuments, disks, points, rivets, and marks.

This policy is not applicable since the proposed project area does not contain any known geodetic control reference marks.

#### **7:7-9.46 Hudson River waterfront area**

This policy restricts development along the Hudson River Waterfront and requires development, maintenance, and management of a section of the Hudson Waterfront Walkway coincident with the shoreline of the development property.

This policy is not applicable since the proposed project is not located in the Hudson River Waterfront Area.

#### **7:7-9.47 Atlantic City**

This policy restricts development within the municipal boundary of the City of Atlantic City.

This policy is not applicable since the proposed project is not located in Atlantic City.

#### **7:7-9.48 Lands and waters subject to public trust rights**

This policy restricts development that adversely affects lands and waters subject to public trust rights. Lands and waters subject to public trust rights are tidal waterways and their shores, including both lands now or formerly below the mean high water line, and shores above the mean high water line. Tidal waterways and their shores are subject to the Public Trust Doctrine and are held in trust by the state for the benefit of all the people, allowing the public to fully enjoy these lands and waters for a variety of public uses.

This policy is not applicable since the proposed project is not located on lands and waters subject to public trust rights.

#### **7:7-9.49 Dredged material management areas**

A dredged material management area is an area documented through historical data, including, but not limited to, aerial photography, historic surveys, and/or previously issued permits, as having been previously used for the placement of sediment associated with the dredging of State and/or Federal navigation channels and marinas.

This policy is not applicable since the proposed project is not located within or near any dredged material management areas.

### **SUBCHAPTER 10. STANDARDS FOR BEACH AND DUNE ACTIVITIES**

#### **7:7-10.1 Purpose and scope**

This subchapter sets forth the standards applicable to routine beach maintenance, emergency post-storm restoration, dune creation and maintenance, and construction of boardwalks. These standards are referenced at N.J.A.C. 7:7-9.16, Dunes; N.J.A.C. 7:7-9.17, Overwash areas; N.J.A.C. 7:7-9.19, Erosion hazard areas; N.J.A.C. 7:7-9.22, Beaches; and N.J.A.C. 7:7-15.11, Coastal engineering. In addition, N.J.A.C. 7:7-10.2, 10.3, and 10.4 are the standards for the general permit for beach and dune maintenance activities, N.J.A.C. 7:7-6.2.

#### **7:7-10.2 Standards applicable to routine beach maintenance**

Routine beach maintenance includes debris removal and clean-up; mechanical sifting and raking; maintenance of accessways; removal of sand accumulated beneath a boardwalk; removal of sand from street ends, boardwalks/promenades, and residential properties; the repair or reconstruction of existing boardwalks, gazebos, and dune walkover structures; and limited sand transfers from the lower beach to the upper beach or alongshore (shore parallel).

This policy is not applicable since the proposed project is not routine beach maintenance.

#### **7:7-10.3 Standards applicable to emergency post-storm beach restoration**

This section on emergency post-storm beach restoration will apply to all beaches, which are impacted by coastal storms with a recurrence interval equal to or exceeding a five-year storm event. Emergency post-storm beach restoration projects not specifically identified in this section may be authorized by the Department through an emergency authorization pursuant to N.J.A.C. 7:7-21 if the Department determines that there is an imminent threat to lives or property.

This policy is not applicable since the proposed project is not an emergency post-storm beach restoration.

#### **7:7-10.4 Standards applicable to dune creation and maintenance**

Dune creation and maintenance includes the placement and/or repair of sand fencing (including wooden support posts), the planting, and fertilization of appropriate dune vegetation, the maintenance, and clearing of beach access pathways less than eight feet in width, and the construction or repair of approved dune walkover structures.

The creation of the buried seawall will constitute a created dune. The dune creation will follow all requirements under this standard. Vegetation will be native to New Jersey, walkovers will be constructed as described in Beach Dune Walkover Structures (Florida Sea Grant, 1981), and trees will not be used.

#### **7:7-10.5 Standards applicable to the construction of boardwalks**

The construction of oceanfront or bayfront boardwalks should address a number of engineering concerns related to structural support, resistance to vertical and horizontal water and wind loads, and scouring.

There are no boardwalks in the proposed project and therefore this policy is not applicable.

### **SUBCHAPTER 11. STANDARDS FOR CONDUCTING AND REPORTING THE RESULTS OF AN ENDANGERED OR THREATENED WILDLIFE OR PLANT SPECIES HABITAT IMPACT ASSESSMENT AND/OR ENDANGERED OR THREATENED SPECIES HABITAT EVALUATION**

This section details the performance and reporting standards for impact assessments for endangered and threatened wildlife species. If required, based on updated relevant agency correspondence, habitat/impact assessments for endangered and threatened species will conform to the performance and reporting standards listed.

This policy restricts development in endangered or threatened wildlife or vegetation species habitat areas.

Refer to Section 7:7-9:36. The District will continue coordination with the USFWS, NOAA-Fisheries, and NJDFW throughout all phases of the project.

## **SUBCHAPTER 12. GENERAL WATER AREAS**

### **7:7-12.1 Purpose and scope**

General water areas are all water areas, which are located below either the spring high water line or the normal water level of non-tidal waters. Sections 7:7-12.2-12.24 set forth the requirements for specific types of development within general water areas.

### **7:7-12.2 Shellfish aquaculture**

This policy sets standards for shellfish aquaculture. Shellfish aquaculture means the propagation, rearing, and subsequent harvesting of shellfish in controlled or selected environments, and the processing, packaging and marketing of the harvested shellfish. Shellfish aquaculture includes activities that intervene in the rearing process to increase production such as stocking, feeding, transplanting, and providing for protection from predators. For the purposes of this section, shellfish means any species of benthic mollusks including hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), surf clams (*Spisula solidissima*), bay scallops (*Aequipectin irradians*), and oysters (*Crassostrea virginica*). Shellfish shall not include conch, specifically, knobbed whelks (*Busycon carica*), lightning whelks (*Busycon contrarium*), and channeled whelks (*Busycotypus canaliculatus*).

This policy is not applicable because the proposed project is not related to shellfish aquaculture.

### **7:7-12.3 Boat ramps**

This policy sets standards for the installation of boat ramps.

This policy is not applicable because the proposed project is not constructing boat ramps.

### **7:7-12.4 Docks and piers for cargo and commercial fisheries**

This policy sets standards for the installation of docks and piers specific for cargo and passenger movement either supported on pilings driven into the bottom substrate or floating on the water surface, used for loading and unloading passengers or cargo and ensure they do not interfere with navigation.

This policy is not applicable because the proposed project is not constructing docks or piers as described above.

#### **7:7-12.5 Recreational docks and piers**

This policy sets standards for recreational and fishing docks and piers supported on pilings driven into the bottom substrate or floating on the water surface or cantilevered over water, which are used for recreation fishing or for the mooring of boats or jet skis used for fishing or recreation.

This policy is not applicable because the proposed project is not constructing recreational docks or piers.

#### **7:7-12.6 Maintenance dredging**

This policy sets standards for maintenance dredging is the periodic removal of accumulated sediment from previously legally dredged navigation and access channels, marinas, lagoons, canals, or boat moorings for the purpose of safe navigation.

This policy is not applicable because it does not involve maintenance dredging.

#### **7:7-12.7 New dredging**

New dredging is the removal of sediment that does not meet the definition of maintenance dredging at N.J.A.C. 7:7-12.6 or the definition of environmental dredging at N.J.A.C. 7:7-12.8.

This policy is not applicable because it does not involve new dredging.

#### **7:7-12.8 Environmental dredging**

Environmental dredging means new dredging performed in a special hazard area designated as such pursuant to N.J.A.C. 7:7-9.39 specifically to remove contaminated sediments for the purpose of remediating to an environmental standard as specified in the Department's Technical Requirements for Site Remediation, N.J.A.C. 7:26E.

This policy is not applicable to the proposed project, as it does not involve dredging as described above.

#### **7:7-12.9 Dredged material disposal**

Dredged material disposal is the discharge of sediments removed during dredging operations in water areas. Dredged material disposal does not include the beneficial use of dredged material for the purposes of habitat creation, restoration, or enhancement, artificial reef construction, or the establishment of living shorelines.

This policy is not applicable because the proposed project does not involve dredged material disposal.

#### **7:7-12.10 Solid waste or sludge dumping**

This policy prohibits the dumping of solid waste or sludge into a water areas. Solid waste or sludge is defined as the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area.

The construction contractor will be required to prepare an Environmental Protection Plan that will outlined measures taken to prevent any unregulated discharges.

#### **7:7-12.11 Filling**

This policy sets standards related to fill activities within water areas. Filling is defined as the deposition of material including, but not limited to, sand, soil, earth, and dredged material, into water areas for the purpose of raising water bottom elevations to create land areas.

In cases where there is no alternative to filling, filling is conditionally acceptable provided: 1) The use that requires the fill is water-dependent; 2) There is a demonstrated need that cannot be satisfied by existing facilities; 3) There is no feasible or practicable alternative site on an existing water's edge; 4) The minimum practicable area is filled; 5) The adverse environmental impacts are minimized; 6) Minimal feasible interference is caused to special areas, as defined at N.J.A.C. 7:7-9; and 7) Pilings and columnar support or floating structures are unsuitable for engineering or environmental reasons.

This policy is not applicable because the proposed project is not conducting any filling as defined by this rule.

#### **7:7-12.12 Mooring**

This policy sets standards for mooring structures. A boat mooring is a temporary or permanently fixed or floating anchored facility in a water body for the purpose of attaching a boat.

This policy is not applicable because the proposed project does not involve mooring structures.

#### **7:7 12.13 Sand and gravel mining**

This policy sets standards for sand and gravel mining in water bodies. Sand and gravel mining is the removal of sand or gravel from the water bottom substrate, usually by suction dredge, for the purpose of using the sand or gravel at another location.

This policy is not applicable, as the proposed project does not involve sand or gravel mining.

#### **7:7-12.14 Bridges**

This policy sets standards for the construction of bridges located within the CZM area.

This policy is not applicable, as the proposed project does not involve the construction or modification of any bridges.

#### **7:7 -12:15 Submerged pipelines**

This policy sets standards for submerged pipelines (pipelines) are underwater pipelines, which transmit liquids or gas, including crude oil, natural gas, water petroleum products, or sewerage.

The proposed project includes a pump station with associated pipes for interior drainage. Pipelines for interior drainage are a necessary part of the project and will be constructed according to the rules of this policy.

#### **7:7-12:16 Overhead transmission lines**

This policy sets standards for overhead transmission lines installed along or within waterbodies.

This policy is not applicable, as the proposed project does not involve the construction of overhead transmission lines.

#### **7:7-12:17 Dams and impoundments**

Dams and impoundments are structures that obstruct natural water flow patterns for the purpose of forming a contained volume of water. Impoundments include dikes with sluice gates and other structures to control the flow of water.

This policy is not applicable, as the proposed project does not involve the construction dams or impoundments as defined by this policy.

#### **7:7-12:18 Outfalls and intakes**

This policy sets standards for the installation of outfalls and intakes within waterways. Outfalls and intakes are pipe openings that are located in water areas for the purpose of intake of water or discharge of effluent including sewage, stormwater, and industrial effluents.

The outfalls associated with the project will meet the rules of this chapter. Therefore, the proposed project complies with this policy.

#### **7:7-12.19 Realignment of water areas**

Realignment of water areas means the physical alteration or relocation of the surface configuration of any water area.

The proposed is not realigning any water areas. Therefore, this policy is not applicable.

#### **7:7-12.20 Vertical wake or wave attenuation structures**

Vertical wake or wave attenuation structures are structures designed to protect boat moorings, including those at marinas, by intercepting wakes or waves and reducing the wake or wave energy, which would normally impact the adjacent boat mooring areas. Typically, timber, metal, or vinyl wake or wave attenuation structures are designed and



utilized to protect boat moorings. For the purposes of this section, a vertical wake or wave attenuation structure does not include a breakwater constructed of concrete or rubble mound. Breakwaters designed to protect shoreline areas shall comply with the filling rule, N.J.A.C. 7:7-12.11, and the coastal engineering rule at N.J.A.C. 7:7-15.11.

The proposed project does not involve the construction of any structures defined above. Therefore, this policy is not applicable.

#### **7:7-21 Submerged cables**

This policy sets standards for the construction of submerged cables such as underwater telecommunication cables, and all associated structures in the water such as repeaters.

The proposed project does not involve the installation of submerged cables and is therefore not applicable.

#### **7:7-12.22 Artificial reefs**

This policy sets standards for the construction of artificial reefs. Artificial reefs are man-made structures intended to simulate the characteristics and functions of natural reefs created by placing hard structures on the sea-floor for the purpose of enhancing fish habitat and/or fisheries. In time, an artificial reef will attain many of the biological and ecological attributes of a natural reef. Artificial reefs do not include shore protection structures, pipelines, fish aggregating devices, and other structures not constructed for the sole purpose of fish habitat.

The proposed project does not involve the creation of artificial reefs and is therefore not applicable.

#### **7:7-12.23 Living shorelines**

This policy sets to standards to the creation of living shorelines. Living shorelines are a shoreline management practice that addresses the loss of vegetated shorelines and habitat in the littoral zone by providing for the protection, restoration, or enhancement of these habitats. This is accomplished through the strategic placement of vegetation, sand or other structural and organic materials.

The proposed project does not involve the creation of living shorelines and is therefore not applicable.

#### **7:7-12.24 Miscellaneous uses**

Miscellaneous uses are uses of water areas not specifically defined in this section or addressed in the use rules, N.J.A.C. 7:7-15.

The proposed project provides hurricane and coastal storm protection, which is in the public interest. Therefore, the proposed project complies with this policy

## **SUBCHAPTER 13. REQUIREMENTS FOR IMPERVIOUS COVER AND VEGETATIVE COVER FOR GENERAL LAND USE AREAS AND CERTAIN SPECIAL AREAS**

### **7:7-13.1 Purpose and Scope**

This policy sets forth requirements for impervious cover and vegetative cover on sites in the upland waterfront development area and CAFRA areas.

### **7:7-13.2 Definitions**

This section defines the terms used in the subchapter.

### **7:7-13.3 Impervious cover requirements that apply to sites in the upland waterfront development and CAFRA areas**

This section sets forth impervious cover requirements that apply to sites in the upland waterfront development and CAFRA areas.

The proposed project is not developing impervious cover as defined by this rule. Therefore, this rule is not applicable.

### **7:7-13.4 Vegetative cover requirements that apply to sites in the upland waterfront development and CAFRA areas**

This section sets forth vegetative cover requirements that apply to sites in the upland waterfront development and CAFRA areas. Vegetative cover percentages, specific to each of these areas, are found at N.J.A.C. 7:7-13.14 and 13.18. More trees may be planted or preserved than required, and if so, the herb/shrub area shall be reduced proportionately.

### **7:7-13.5 Determining if a site is forested or unforested**

This policy sets forth the vegetative cover percentage that applies to a site in the upland waterfront development area or CAFRA area varies depending on whether the site is forested. If only a portion of a site is forested, separate vegetative cover percentages shall be calculated for the forested and unforested portions of the site.

The portion of the project that contains trees is less than 1 acres and is surrounded on all sides with less than one tree per 100 square feet. This rule classifies the project as unforested.

### **7:7-13.6 Upland waterfront development area regions and growth ratings**

This policy set forth the growth rating for a site in the upland waterfront development area and is determined by the region in which it is located, and the growth rating assigned to that region.

The proposed project is in the northern waterfront region and assigned a development growth rating.

### **7:7-13.7 Determining the environmental sensitivity of a site in the upland waterfront development area**

This policy sets forth the environmental sensitivity of a site in the upland waterfront development area, which is based on the soil type and the depth to seasonal high water table or the presence of paving or structures. Different portions of a site may have different environmental sensitivities.

Portions of the project are low environmental sensitivity while the portions that contain beach are a medium environmental sensitivity.

#### **7:7-13.8 Determining the development potential of a site in the upland waterfront development area**

This policy set forth the development potential as determined by the type of development proposed and the presence or absence of certain development-oriented elements at or near the site of the proposed development, including roads; wastewater conveyance, treatment and disposal system; and existing development. Development potential may be high, medium, or low, as determined under N.J.A.C. 7:7-13.9 through 13.11. A single development potential applies to an entire site.

The proposed project is not in the upland waterfront development area as defined by this policy and therefore this policy is not applicable.

#### **7:7-13.9 Determining the development potential for a residential or minor commercial development site in the upland waterfront development area**

Subject to the limitation at N.J.A.C. 7:7-13.8(c)1, the development potential for a residential development site or a minor commercial development site in the upland waterfront development area is determined using (b) through (d) below

The proposed project is not a residential or minor commercial development as defined by this policy and therefore this policy is not applicable.

#### **7:7-13.10 Determining the development potential for a major commercial or industrial development site in the upland waterfront development area**

Subject to the limitations at N.J.A.C. 7:7-13.8(c)2, the development potential for a major commercial or industrial development site in the upland waterfront development area is determined under (b) through (d) below.

The proposed project is not a major commercial or industrial development and therefore this policy is not applicable.

#### **7:7-13.11 Determining the development potential for a campground development site in the upland waterfront development area**

Subject to the limitations at N.J.A.C. 7:7-13.8(c)3, the development potential for a campground development site in the upland waterfront development area is determined using (b) through (d) below.

The proposed project is not a campground and therefore this policy is not applicable.

**7:7-13.12 Determining the development intensity of a site in the upland waterfront development area**

This policy sets forth the development intensity for a site in the upland waterfront development area based on growth rating, environmental sensitivity, and development potential.

The development intensity for the proposed project site is low.

**7:7-13.13 Impervious cover limits for a site in the upland waterfront development area**

This policy sets forth the impervious cover limit for the site.

The proposed project is not constructing impervious cover. Therefore, this policy is not applicable.

**7:7-13.14 Vegetative cover percentages for a site in the upland waterfront development area**

This policy sets forth the amount in which trees and/or herb/shrub vegetation shall be planted or preserved.

The proposed project has a tree preservation and/or planting percentage of 5%. The buried seawall will be planted with native vegetation that will cover more than 5% of the area.

**7:7-13.15 Coastal Planning Areas in the CAFRA area**

This policy sets forth definitions of the coastal planning area.

The proposed project is within the Coastal Metropolitan Planning Area.

**7:7-13.16 Boundaries for Coastal Planning Areas, CAFRA centers, CAFRA cores, and CAFRA nodes; non-mainland coastal centers**

The boundaries of the Planning Areas, the community development boundaries of centers, and the boundaries of cores and nodes formally approved by the State Planning Commission as of August 1, 1999, are incorporated by reference into this subchapter. These boundaries are the boundaries of the Coastal Planning Areas, CAFRA centers, CAFRA cores, and CAFRA nodes and shall be operative for the purposes of applying the requirements for impervious cover and vegetative cover under this subchapter.

**7:7-13.17 Impervious cover limits for a site in the CAFRA area**

This policy sets forth the impervious cover limit for a site in the CAFRA area

The proposed project is not constructing imperious cover. Therefore, this policy is not applicable.

**7:7-13.18 Vegetative cover percentages for a site in the CAFRA area**

This policy set forth the vegetation cover percentages for a site in the CAFRA area.

The tree preservation and/or planting percentage for unforested portion of site is determined to be zero.

#### **7:7-13.19 Mainland coastal centers**

This policy sets forth that the boundaries delineated by the Department for mainland coastal centers not located on barrier islands, oceanfront spits, or peninsulas in the CAFRA area, which expired in 2007. The expired boundaries were re-established under the Permit Extension of Act of 2008 as amended January 18, 2010, September 19, 2012, and December 26, 2014. The boundaries of mainland coastal centers are described in Appendix J of this chapter.

### **SUBCHAPTER 14. GENERAL LOCATION RULES**

#### **7:7-14.1 Rule on location of linear development**

This policy sets conditions for acceptability of linear development (e.g., roads, walkways, pipelines).

This policy is not applicable since there is no linear development associated with the proposed project.

#### **7:7-14.2 Basic location rule**

This policy states that the NJDEP may reject or conditionally approve a project for safety, protection of certain property, or preservation of the environment.

The proposed project would involve protecting private and public property through the implementation of bulkheads and a buried seawall. The location of the coastal storm risk management measures is necessary to provide the necessary storm risk management to the surrounding community.

#### **7:7-14.3 Secondary impacts**

This policy sets the requirements for secondary impact analysis from the effects of additional development likely to be constructed as a result of the approval of a particular proposal. Secondary impacts are the effects of additional development likely to be constructed as a result of the approval of a particular proposal. Secondary impacts can also include traffic increases, increased recreational demand, and any other offsite impacts generated by onsite activities, which affect the site and surrounding region.

This policy is not applicable because the proposed project would not involve additional development nor would induce additional development.

### **SUBCHAPTER 15. USE RULES**

#### **7:7-15.1 Purpose and scope**

Use rules are rules and conditions applicable to particular kinds of development. In general, conditions contained in the use rules must be satisfied in addition to the location rules (N.J.A.C. 7:7-9 through 14), and the resource rules described in the following subchapter (N.J.A.C. 7:7-16).

### **7:7-15.2 Housing**

This policy sets standards for housing construction in coastal areas.

The proposed project involves implementing nonstructural measures and a levee to protect existing residential and business structures and does not include new construction or expansion of the existing footprint. The proposed project is compatible with this policy.

### **7:7-15.3 Resort/recreational**

This policy sets standards for resort and recreational uses in the coastal area.

This policy is not applicable because the proposed project does not involve resort or recreational uses.

### **7:7-15.4 Energy facility**

This policy sets standards for energy uses in coastal areas.

This policy is not applicable because the proposed project does not involve new construction that would require long-term energy use.

### **7:7-15.5 Transportation**

This policy sets standards for roads, public transportation, footpaths, and parking facilities in coastal areas.

This policy is not applicable since the proposed project does not involve construction of roads, public transportation, footpaths, and/or parking facilities.

### **7:7-15.6 Public facility**

This policy sets standards for public facilities (e.g., solid waste facilities) in coastal areas.

This policy is not applicable since the proposed project does not involve construction of a public facility.

### **7:7-15.7 Industry**

This policy sets standards for industrial uses in coastal areas.

This policy is not applicable because the proposed project does not involve construction of industrial facilities.

### **7:7-15.8 Mining**

This policy sets standards for mining in coastal areas.

This policy is not applicable because the proposed project does not involve mining.

#### **7:7-15.9 Port**

This policy sets standards for port uses and port-related development.

This policy is not applicable because the proposed project does not involve port use or the construction of a port.

#### **7:7-15.10 Commercial facility**

This policy sets standards for commercial facilities such as hotels, and other retail services in the coastal zone.

This policy is not applicable since the proposed project does not involve construction of commercial facilities.

#### **7:7-15.11 Coastal engineering**

This policy sets standards to protect the shoreline, maintain dunes, and provide beach nourishment. Coastal engineering measures include a variety of non-structural, hybrid, and structural shore protection and storm damage reduction measures to manage water areas and protect the shoreline from the effects of erosion, storms, and sediment and sand movement. Beach nourishment, sand fences, pedestrian crossing of dunes, stabilization of dunes, dune restoration projects, dredged material management, living shorelines, and the construction of retaining structures such as bulkheads, gabions, revetments, and seawalls are all examples of coastal engineering measures.

The proposed project includes the construction of a buried seawall and bulkhead. Therefore, the Coastal Engineering Use Rule applies. The project will be designed to comply with the standards relevant to coastal engineering and provide maximum flood protection while minimizing impacts to natural resources and maintaining public access to the Sandy Hook Bay. Therefore, the proposed project complies with this rule.

#### **7:7-15.12 Dredged material placement on land**

This policy sets standards for placement of dredged materials landward of the spring high water line.

During construction, the contractor will be required to adhere to an Erosion and Sediment Control Plan and develop an Environmental Protection Plan to deal with any excavated material. Placement of sand for the buried seawall will be from a state approved, inland source that matches the size of existing sand on the beach. The project is designed to protect human life and infrastructure.

#### **7:7-15.13 National defense facilities**

This policy sets standards for the location of defense facilities in the coastal zone.

This policy is not applicable since the proposed project does not involve national defense facilities.

#### **7:7-15.14 High-rise structures**

This policy sets standards for high-rise structures in the coastal zone.

This policy is not applicable because the proposed project does not involve high-rise structures.

### **SUBCHAPTER 16. RESOURCE RULES**

**7:7-16.1: Purpose and scope:** This subchapter contains the standards the Department utilizes to analyze the proposed development in terms of its effects on various resources of the built and natural environment of the coastal zone, both at the proposed site as well as in its surrounding region.

#### **7:7-16.2 Marine fish and fisheries**

This policy sets standards of acceptability so as to cause minimal feasible interference with the reproductive and migratory fish patterns of estuarine and marine species of finfish and shellfish.

The proposed project is located in Essential Fish Habitat (EFH) for a variety of species. The EFH assessment determined that the adverse effect on EFH is not substantial. Therefore, the project complies with this policy.

#### **7:7-16.3 Water quality**

This policy sets standards for coastal development to limit effects on water quality.

Short-term water quality impacts resulting from construction activities may occur and are anticipated to be localized to the vicinity of the footprint proposed levee. Erosion and sediment control best management practices will be implemented during construction to minimize impacts to water quality. No long-term impacts to the offshore or near-shore water quality are anticipated as a result of the proposed project.

#### **7:7-16.4 Surface water use**

This policy sets standards for coastal development so as to limit effects on surface water.

Short-term water quality impacts resulting from construction activities are expected and are anticipated to be localized proximal to the footprint of the proposed project. Erosion and sediment control best management practices will be implemented during construction to minimize impacts to surface water.

#### **7:7-16.5 Groundwater use**

This policy sets standards for coastal development so as to limit effects on groundwater supplies.



This policy is not applicable because the proposed project does not involve or effect future use of groundwater supplies.

#### **7:7-16.6 Stormwater management**

This policy sets forth that “major developments” must abide by the Stormwater Management Rules N.J.A.C. 7:8-1.2.

The proposed project will abide by the Stormwater Management Rules. Therefore, the project is compliant with this policy.

#### **7:7-16.7 Vegetation**

This policy sets standards for coastal development while protecting native vegetation. Vegetation is the plant life or total plant cover that is found on a specific area, whether indigenous or introduced by humans. Coastal development shall preserve, to the maximum extent practicable, existing vegetation within a development site. Coastal development shall plant new vegetation, particularly appropriate coastal species, and native to New Jersey to the maximum extent practicable.

Construction of the proposed levee, and to a lesser degree, the nonstructural measures will result in temporary and permanent disturbance of vegetation. Per USACE policy, a 15- foot vegetation free zone (maintained lawn only) is required on either side of the levee. Existing vegetation will be preserved to the maximum extent practicable. Most of the area within the project footprint has undergone prior disturbance. Invasive and nuisance species and monocultures of common reed are common within the footprint of the levee. Following construction, impacted areas would be stabilized and revegetated. Per USACE and state policy, all vegetation replanted will be native to New Jersey.

#### **7:7-16.8 Air quality**

This policy sets standards for coastal development with requirements that projects must meet applicable air quality standards.

Emissions to construct the proposed project do not exceed threshold levels for any emission variable. As a result, a Clean Air Act, Record of Non-Applicability has been prepared. The proposed project is consistent with this policy since it is not anticipated to increase air emissions above existing levels.

#### **7:7-16.9 Public access**

This policy requires that coastal development adjacent to the waterfront provide perpendicular and linear access to the waterfront to the extent practicable, including both visual and physical access.

A portion of the levee is located within Veterans Memorial Park. The park does not offer direct waterfront access (e.g. canoe launch), however, it does offer view of the bay. The design of the levee will maintain views of the bay from within most of the park. The buried levees will visually block views of the bay however; walkovers will be installed

providing access to the water. Along the bulkhead and floodwall sections, existing access to the water will be maintained with walkovers. Therefore, the proposed project is consistent with this policy. This policy does not apply to the portions of the project that are located on private property.

#### **7:7-16.10 Scenic resources and design**

This policy sets standards that new coastal development be visually compatible with its surroundings.

There will be a change in the scenery for most residents and businesses along the waterfront. The levee, bulkhead and, floodwall will obstruct views of the bay. However, the project is necessary to protect these homes and businesses from coastal storms. The height of the project will be 14 feet one foot less than the height discussed in this policy. Therefore, the proposed project is consistent with this policy.

#### **7:7-16.11 Buffers and compatibility of uses**

This policy sets standards for adequate buffers between compatible land uses. Buffers are natural or man-made areas, structures, or objects that serve to separate distinct uses. Compatibility of uses is the ability for uses to exist together without aesthetic or functional conflicts.

The proposed project is intended to protect surrounding land uses, which includes park facilities and residential and business structures from coastal storm damage. The proposed levee and floodwall in Veterans Memorial Park will be consistent with current park usage. Therefore, the proposed project is consistent with this policy.

#### **7:7-16.12 Traffic**

This policy sets standards that restrict coastal development that would disturb traffic systems.

The proposed project would make every effort possible to mitigate temporary impacts on traffic during construction. The proposed project would have no permanent effects on traffic and therefore is consistent with this policy.

#### **7:7-16.13 Subsurface sewage disposal systems**

This policy sets standards for subsurface sewage disposal systems in the coastal zone.

This policy is not applicable because the proposed project does not involve sewage disposal or the development of a subsurface sewage disposal system.

#### **7:7-16.14 Solid and hazardous waste**

This policy sets standards for handling and disposal of solid and hazardous waste.

This policy is not applicable because the proposed project does not involve solid and hazardous waste. The construction contractor will be required to develop an Environmental Protection Plan that details the prevention of accidental discharge of any solid waste during construction.



## State of New Jersey

PHILIP D. MURPHY  
Governor

SHEILA Y. OLIVER  
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Division of Land Use Regulation  
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CATHERINE R. McCABE  
Commissioner

April 16, 2020

Mr. Peter Weppler, Chief  
Environmental Analysis Branch  
U.S. Army Corps of Engineers, New York District  
26 Federal Plaza  
New York, New York 10278-0090

RE: Raritan Bay and Sandy Hook Bay, Highlands, New Jersey  
Coastal Storm Risk Management Feasibility Study  
Final Integrated Feasibility Report & Environmental Assessment

Dear Mr. Weppler:

The NJDEP Division of Land Use Regulation (Division) is writing in regard to the U.S. Army Corps of Engineers (ACOE), New York District's Final Integrated Feasibility Report and Environmental Assessment (FIFR/EA) for the Raritan Bay and Sandy Hook Bay, Highlands, New Jersey, Coastal Storm Risk Management Feasibility and, more specifically, the Clean Water Act, Section 401 Water Quality Certification (WQC) and the Coastal Zone Management Act, Section 307 Federal Consistency decisions for the Project.

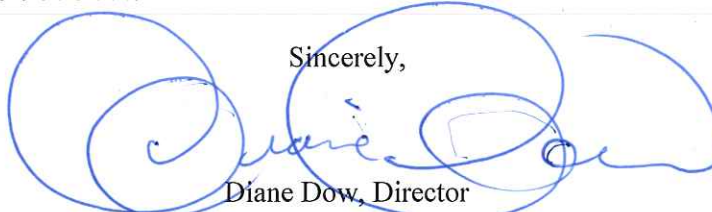
The FIFR/EA recommends authorizing a plan to reduce the risk of damages from flooding to the portions of northeastern New Jersey, within the New York City metropolitan area. The principle features of the National Economic Development plan include:

- a) I-Type and T-Type floodwalls to elevation +14 ft North American Vertical Datum of 1988 (NAVD88) with a total length of 10,737 linear feet along the bay shoreline; and
- b) For interior drainage purposes a detention pond, one pump station, and pressurized pipes.

The Division has no significant issues or major concerns with the ACOE moving forward with further design of this important project. The Division does not foresee any problems that would preclude issuance of a Federal Consistency determination/WQC for the Highlands Coastal Storm Risk Management Project, provided that the ACOE submits a Federal Consistency/WQC request for the final selected project design and the Division can confirm that the proposed project is consistent with its Coastal Zone Management rules.

The Division looks forward to coordinating with the ACOE during the next phase of the project and to receiving the Corps' request for the WQC and Federal Consistency decisions. If you have any questions, please contact me at 609 984-3444.

Sincerely,

A handwritten signature in blue ink, appearing to read "Diane Dow", is written over the word "Sincerely," and the printed name below.

Diane Dow, Director  
NJDEP, Division of Land Use Regulation

cc: Virginia Kopkash, Assistant Commissioner  
Dave Rosenblatt, Assistant Commissioner  
William Dixon, NJDEP Division of Coastal Engineering

**Raritan Bay and Sandy Hook Bay, Highlands,  
New Jersey Coastal Storm Risk Management  
Project  
Feasibility Study**

**Final Feasibility Report and Environmental  
Assessment  
February 2020**

**Appendix A3:  
Clean Water Act Section 404(b)(1) Guidelines  
Evaluation**

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## INTRODUCTION

This document presents Section 404(b)(1) guidelines evaluation for the coastal storm protection project Highlands, Monmouth County, New Jersey. The recommended plan consists of approximately 10,636 linear feet of raised bulkheads, raised ground surfaces, floodwalls, and reinforced dunes covered with sand. The project spans a geographic distance of approximately 8,000 linear feet along the bayshore of Highlands and ties into high ground (+10 ft NAVD 88) at either end. Because the project follows the actual perimeter of the shore, its total length is 10,636 linear ft. The discharge to waters of the U.S. that may occur related to the project would be the placement of bulkheads into shallow near shore waters along this reach of shoreline. Best management practices will be fully utilized to ensure that turbidity and sedimentation are limited to the area immediately adjacent to the project sit and minimized to the greatest extent possible. This evaluation is based on the regulations presented in 40 CFR 230, Section 404(b)(1): Guidelines for Specification of Disposal Sites for Dredged or Fill Material. The regulations implement Sections 404(b) and 401(1) of the Clean Water Act, which govern disposal of dredged and fill material inside the territorial seas baseline [§230.2(b)].

As stated in Section 230.10(a)(4): For actions subject to NEPA, where the U. S. Army Corps of Engineers (USACE) is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental USACE NEPA documents will in most cases provide the information for the evaluation of alternatives under these Guidelines. The Environmental Assessment (EA), to which this evaluation is an appendix, provides the documentation necessary to attest that the project is fully in compliance with the Section 404(b)(1) guideline. The EA provides a full project description and location, description of existing conditions, full alternatives analysis, and description of potential impacts as a result of the project and the project's construction. The analysis provided within the EA coastal storm risk management plan will not cause or contribute to significant degradation of the waters of the United States, as is demonstrated in the following sections and tables.

## 404(b)(1) EVALUATION

### Study Description

- A. Location - The Study area is located in the northern portion of Monmouth County in Highland, NJ. The Study area is defined by Sandy Hook Bay to the north, Sand Hook to the east, Middletown Township to the south, and the Borough of Atlantic Highlands to the west. The study area is approximately 8000 feet along the bayshore, from Murray Beach at the western end to the Route 36 bridge at the eastern end.
- B. General Description - Coastal storm risk management elements at an elevation of +10 ft NAVD88 to +12.4 ft NAVD88, consisting of 7,289 linear ft of raised bulkheads, 328 linear ft of raised ground surfaces, 375 linear ft of floodwalls, and 1,194 linear ft of onshore dune barrier, and a street closure gate that ties into high ground at either end of the project.
- C. Authority and Purpose - The Raritan Bay and Sandy Hook Bay, New Jersey project, including the Highlands study, was again authorized by a resolution of



the Committee on Public Works and Transportation of the U.S. House of Representatives adopted August 1, 1990. This study authority covered the Raritan Bay and Sandy Hook Bay area, from South Amboy at the entrance to the Raritan River at the western end to Highlands at the eastern end.

The study was underway when Hurricane Sandy severely impacted the study area in October 2012. In response to the storm, the Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law (P.L.) 113-2. The legislation provides supplemental appropriations to address damages caused by Hurricane Sandy and to reduce future flood risk in ways that will support the long-term sustainability of the coastal ecosystem and communities, and reduce the economic costs and risks associated with large-scale flood and storm events.

Chapter 4 of P.L. 113-2 directs the USACE to prepare two interim reports to Congress for areas that were affected by Hurricane Sandy, a project performance evaluation report, and a comprehensive study to address the flood risks of vulnerable coastal populations in areas that were affected by Hurricane Sandy within the boundaries of the NAD. The District prepared the *Second Interim Report, Disaster Relieve Appropriations Act, 2013* dated May 30, 2013, which includes the Highlands study among those authorized but unconstructed projects that were granted funding for study completion at full Federal expense. This report is a response to this authorization.

- D. General Description of Fill Material - Construction of the storm protection reinforced dune, bulkhead, floodwall, and road closure gate would require the placement of armor stone, bedding stone, concrete, geotextile fabric, and sand.
1. General Characteristics of Material - Sand would be required to cover the reinforced dune. Quarry stone, bedding stone, armor stone, steel sheetpile, and geotextile fabric, would be used to construct the protection elements.
  2. Quantity of Material - Construction of the protection elements would require the following quantities of materials (estimated): Bulkhead construction would require approximately 4, 240 cubic yards (cy) of concrete, 6,195 tons of bedding stone, 17,170 square yards (sy) of geotextile material, and 9,495 tons of armor stone. Reinforced dune construction would require 8,850 cy sand, 885 cy concrete, 1,295 tons of bedding stone, 3,590 sy geotextile material, 1,995 tons armor stone, and 9,875 sy dune grass. Floodwall construction would require 1,085 cy concrete, 1,440 sy geotextile material, and 435 tons gravel.
  3. Source of Material - Sources for fill material may include on-site and off site substrate dependent upon the composition of soils at the site-specific locations. Rocks and concrete materials will be obtained from

commercial sources proximal to the Selected Plan. The sand will come from inland sources.

**E. Proposed Discharge Site**

1. Location - The Study area location is described in I (a), above.
2. Size - The size/dimensions of the coastal storm risk management measures are described in I (d), above.
3. Type of Sites/Habitat - The potential coastal storm risk management measures would result in the following cover type impacts:
4. Time and Duration of Disposal - The Selected Plan will be constructed in various elements over a two-year period. Construction of the first elements is projected to begin in Dec 2017 and end Aug. 2022.
5. Disposal Method - Construction equipment such as bulldozers, backhoes, dump trucks, will be used.

## FACTUAL DETERMINATIONS

### Review of Compliance – Section 230.10(a)-(d)

	YES	NO
a. The discharge represents the least environmentally damaging practicable alternative and, if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose.	X	
b. The activity does not appear to: 1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA; 2) jeopardize the existence of Federally listed threatened and endangered species or their habitat; and 3) violate requirements of any Federally designated marine sanctuary.	X	
c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values.	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.	X	

### Technical Evaluation Factors (Subparts C-F)

	N/A	Not Significant	Significant
<b>a. Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)</b>			
1) Substrate		X	
2) Suspended particulates/turbidity		X	
3) Water column impacts		X	

	4) Current patterns and water circulation		X	
	5) Normal water circulation		X	
	6) Salinity gradients	X		
<b>b. Potential Impacts on Biological Characteristics on the Aquatic Ecosystem (Subpart D)</b>				
	1) Threatened and endangered species		X	
	2) Fish, crustaceans, mollusks, and other organisms in the aquatic food web		X	
	3) Other wildlife (mammals, birds, reptiles and amphibians)		X	
<b>c. Potential Impacts on Special Aquatic Sites (Subpart E)</b>				
	1) Sanctuaries and refuges		X	
	2) Wetlands		X	
	3) Mud Flats		X	
	4) Vegetated Shallows	X		
	5) Coral reefs	X		
	6) Riffle and pool complexes	X		
<b>d. Potential Effects on Human Use Characteristics (Subpart F)</b>				
	1) Municipal and private water supplies	X		
	2) Recreational and commercial fisheries		X	
	3) Water-related recreation		X	
	4) Aesthetic impacts		X	
	5) Parks, national and historic monuments, national seashores, wilderness areas, research sites and similar preserves	X		

### Evaluation and Testing – Subpart G

<b>a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (Check only those appropriate.)</b>			
	1) Physical characteristics		X
	2) Hydrography in relation to known or anticipated sources of contaminants		X
	3) Results from previous testing of the material or similar material in the vicinity of the project		X
	4) Known, significant sources of persistent pesticides from land runoff or percolation		X
	5) Spill records for petroleum products or designated hazardous substances (Section 311 of CWA)		X
	6) Public records of significant introduction of contaminants from industries, municipalities or other sources		X

	7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	X
	8) Other sources (specify)	N/A
<b>List appropriate references – See Environmental Assessment</b>		
	<b>YES</b>	<b>NO</b>
<b>b. An evaluation of the appropriate information factors in 3a above indicates that there is reason to believe the proposed dredged material is not a carrier of contaminants or that levels of contaminants are substantively similar at extraction and disposal sites and not likely to require constraints.</b>		X

#### Disposal Site Delineation - Section 230.11(f)

<b>a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (Check only those appropriate.)</b>		
	1) Depth of water at disposal site	Yes
	2) Current velocity, direction, variability at disposal site	Yes
	3) Degree of turbulence	Yes
	4) Water column stratification	Yes
	5) Discharge of vessel speed and direction	Yes
	6) Rate of discharge	Yes
	7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)	Yes
	8) Number of discharges per unit of time	Yes
	9) Other factors affecting rates and patterns of mixing (specify)	Yes
<b>List appropriate references – See Environmental Assessment</b>		
	<b>YES</b>	<b>NO</b>
<b>b. An evaluation of the appropriate information factors in 4a above indicated that the disposal sites and/or size of mixing zone are acceptable.</b>		X

#### Actions to Minimize Adverse Effects (Subpart H)

	<b>YES</b>	<b>NO</b>
All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge.	X	

#### Factual Determination – Section 230.11

A review of appropriate information, as identified in Items 2-5 above, indicates there is minimal potential for short or long-term environmental effects of the proposed discharge as related to:		
	<b>YES</b>	<b>NO</b>
a. Physical substrate at the disposal site (review Sections 2a, 3, 4 and 5 above)	X	
b. Water circulation, fluctuation and salinity (review Sections 2a, 3, 4 and 5)	X	
c. Suspended particulates/turbidity (review Sections 2a, 3, 4 and 5)	X	
d. Contaminant availability (review Sections 2a, 3 and 4)	X	
e. Aquatic ecosystem structure, function and organisms (review Sections 2b, 2c, 3 and 5)	X	
f. Proposed disposal site (review Sections 2, 4 and 5)	X	
g. Cumulative effects on the aquatic ecosystem	X	
h. Secondary effects on the aquatic ecosystem	X	

### Findings of Compliance or Non-Compliance

	<b>YES</b>	<b>NO</b>
The proposed disposal site for discharge of dredged or fill material complies with Section 404(b)(1) guidelines.	X	

In summary, the implementation of the recommended Highlands Coastal Storm Risk Management Plan:

Will have no adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.

Will have no significant adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;

Will have no significant adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability.

Will have no significant adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

# **Raritan Bay and Sandy Hook Bay, Highlands, New Jersey Coastal Storm Risk Management Project**

## **Feasibility Study**

**Final Feasibility Report and Environmental  
Assessment  
February 2020**

**Appendix A4:  
Pertinent Correspondence**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

SEP - 3 2015

Mr. Matthew Voisine  
U.S. Army Corps of Engineers, New York District  
Planning Division, Environmental Branch  
26 Federal Plaza  
New York, NY 10278-0090

RE: Draft Feasibility Report and Environmental Assessment, Raritan Bay and Sandy Hook Bay, Highlands, NJ Coastal Storm Risk Management

Dear Mr. Voisine:

The Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers (Corps) Draft Integrated Feasibility Report and Environmental Assessment for Raritan Bay and Sandy Hook Bay, Highlands, New Jersey Coastal Storm Risk Management dated July 2015. This study has determined that periodic coastal storms pose a severe threat to life and property in the Borough of Highlands, Monmouth County, New Jersey. The purpose of the feasibility study was to propose and evaluate several coastal protection plans, and determine the tentatively selected plan (TSP) for coastal protection of the project area. The TSP will be optimized after public and agency review, to become the recommended plan. The TSP for this project is a hybrid plan that matches the existing ground surface. Existing bulkheads will be elevated and existing beach areas will be amended with reinforced dunes, consisting of a buried sheet pile seawall covered with sand, and with an impervious earthen core installed along the backside of the seawall. The total length of the project is 10, 636 linear feet, and will tie into high ground at the north and south ends.

Generally, EPA finds that the EA supports a finding of no significant impact; however, the document does not provide the information necessary to support a General Conformity Applicability Analysis. Without more information that the "comparable project" is using similar mobile source equipment, for a similar time period, EPA does not concur with the Corps finding that construction emissions for this project will be within de minimis levels. EPA recommends that the analysis should provide estimates of mobile source equipment types (i.e., cranes, backhoes, dredges, marine equipment) to be used during construction, the emissions factors for that equipment, and total emissions.

Also, EPA disagrees with the Corps definition of cumulative impacts on page 76. As per the Council of Environmental Quality, Section 1508.7 "Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-

Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." The EA modifies that definition by adding "closely related" to the definition and only looks at other Corps projects in its assessment of cumulative impacts. The cumulative impacts section should include any other past or reasonably foreseeable projects, such as construction of the new condominium project on the north side of the project, or any of the Borough of Highlands planned projects as discussed in the Strategic Recover Planning Report, September 2014.

While the document states that the proposed coast storm risk management action for the Highlands would not affect or be affected, due to the lack of geographical contiguity, by the existing Corps projects at Union Beach, Keansburg, North Middletown, Laurence Harbor, Port Monmouth, Belford, Leonardo, Atlantic Highlands, the Shrewsbury and Navesink Rivers, or along the Atlantic Coast of New Jersey from Sea Bright to Manasquan, we would like to see the document reference the model, or discuss the reasoning behind this statement.

Thank you for the opportunity to comment. If you have any questions, please call Lingard Knutson of my staff at (212) 637-3747.

Sincerely,

A handwritten signature in dark ink, appearing to read "Grace Musumeci", followed by a long horizontal flourish.

Grace Musumeci, Chief  
Environmental Review Section





**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

REPLY TO  
ATTENTION OF

6 December 2016

Environmental Assessment Section  
Environmental Analysis Branch

Ms. Katherine J. Marcopul  
Deputy State Historic Preservation Officer  
State of New Jersey Department of Environmental Protection  
Historic Preservation Office  
PO Box 420  
Trenton, NJ 08625-0420

Dears. Ms. Marcopul:

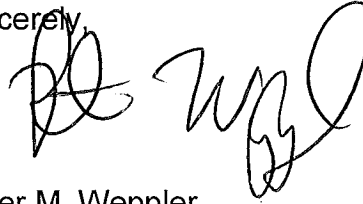
The U.S. Army Corps of Engineers, New York District (Corps) is finalizing a feasibility report for the Raritan Bay and Sandy Hook Bay, Combined Erosion Control and Coastal Storm Risk Management Project, Borough of Highlands (HPO 05-2109). This report presents potential solutions to manage coastal storm risk in the Borough of Highlands, Monmouth County, New Jersey. The Corps prepared a draft Programmatic Agreement (PA) which was reviewed by your office (Enclosure 1). The Advisory Council on Historic Preservation (ACHP) was invited to participate in this agreement but has opted not to do so at this time. The draft PA was also coordinated with Federally Recognized Tribes and the Historical Society of Highlands and no comments were received. The draft PA was made available for public review in the Draft Environmental Assessment which served as the USACE's Section 106 public coordination. No comments were received regarding the cultural resources component of the project or the PA.

Since your initial review of the PA the project description has been slightly modified. This change was coordinated with Jesse West-Rosenthal of your office. A subsequent change, recently requested by the Borough of Highlands, is to eliminate any sand covering of the project features proposed in areas that are presently sand. All changes, including responses to your comments, are highlighted in Enclosure 2 and incorporated into the final PA (Enclosure 3).

Please review the enclosed documents. If you concur with the stipulations and edits in the final PA please sign, date and return the original PA to the Corps. A copy of the

signed document will be provided to your office and to the ACHP. If you or your staff require additional information or have any questions, please contact Lynn Rakos, Project Archaeologist, at (917) 790-8629

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter M. Wepler', written in a cursive style.

Peter M. Wepler  
Chief, Environmental Analysis Branch

Enclosures

CC: w/ Enclosures  
Delaware Nation  
Delaware Tribe of Indians  
Shawnee Tribe of Oklahoma



HPO Project # 05-2109-2  
HPO-H2015-171

## State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE  
*Governor*

BOB MARTIN  
*Commissioner*

KIM GUADAGNO  
*Lt. Governor*

August 18, 2015

Peter M. Wepler  
Chief, Environmental Analysis Branch  
Department of the Army  
Corps of Engineers, New York District  
Jacob K. Javits Federal Building  
New York, NY 10278-0090

**RE: Monmouth County, Highlands Borough  
Sandy Hook and Raritan Bay, Feasibility Study  
United States Department of the Army, Corps of Engineers  
Programmatic Agreement**

Dear Mr. Wepler:

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the proposed programmatic agreement (PA) for the Raritan Bay and Sandy Hook Coastal Storm Risk Management Feasibility Project.

### 800.4 Identifying Historic Properties

Thank you for the detailed project history explanation provided with the PA. The HPO agrees with this explanation and looks forward to identification of the following historic properties:

- 1) Honeysuckle Lodge
- 2) 58 Fifth Street
- 3) Bay Avenue Historic District (including Sculthrope's Auditorium and 60 Bay Street)
- 4) FloBar Apartments

### Programmatic Agreement Comments

The HPO has reviewed the agreement document and while the document is generally acceptable the HPO has the following editorial comments:

- 1) The third -to-last whereas clause on the second page of the draft programmatic agreement states that the HPO determined that Phase IB archaeological investigation was not required for the shoreline project features in the Area of Potential Effect (APE), but archaeological survey may be required where the alignment on the east end of the APE

has been modified and in proposed environmental mitigation areas, once determined. The HPO requests a specific Stipulation be included that indicates that no further consideration of archaeological resources is necessary in the previously-reviewed portion of the APE, but that the New York District shall consult with the HPO to identify and evaluate archaeological resources within the area of the revised alignment.

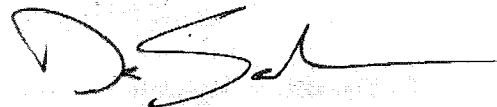
- 2) The second -to-last whereas clause on the second page of the draft programmatic agreement references the invitation of the Advisory Council on Historic Preservation, the Delaware Tribe of Indians, the Shawnee Tribe of Oklahoma, and the Historical Society of the Highlands to participate in this agreement. The HPO requests that this whereas clause be revised to reflect the outcomes of these invitations to memorialize the consultation regarding this agreement, once responses have been received.

Additionally, the HPO would also like the opportunity to discuss an appropriate time period for the expiration of the PA within the Stipulation VIII.D Sunset Clause. Once the above revisions are made and the time period is discussed, the HPO will then be able to sign the agreement document.

#### **Additional Comments**

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. If you have any questions, please do not hesitate to contact Michelle Hughes of my staff at (609) 984-6018 with any questions regarding historic architecture and Deirdre Kelleher at (609) 292-1913 with any questions regarding archaeology. Please reference the HPO project number 05-2109, in any future calls, emails, submissions, or written correspondence to help expedite your review and response.

Sincerely,



Daniel D. Saunders  
Deputy State Historic  
Preservation Officer

Cc: Lynn Rakos – USACE

DDS/MH/dk



Preserving America's Heritage

July 27, 2015

Mr. Peter M. Weppler  
Chief, Environmental Analysis Branch  
Corps of Engineers-New York District  
Jacob K. Javits Federal Building  
New York, NY 10278-0090

Ref: *Proposed Raritan Bay and Sandy Hook Bay, Highlands, New Jersey*  
*Coastal Storm Risk Management Feasibility Study*  
*Monmouth County, New Jersey*

Dear Mr. Weppler:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Programmatic Agreement (PA), developed in consultation with the New Jersey State Historic Preservation Office's (SHPO's) and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the PA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require further assistance, please contact Mr. Brian Lusher at 202 517-0221 or via e-mail at [blusher@achp.gov](mailto:blusher@achp.gov).

Sincerely,

LaShavio Johnson  
Historic Preservation Technician  
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 • Washington, DC 20001-2637  
Phone: 202-517-0200 • Fax: 202-517-6381 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)



**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

REPLY TO  
ATTENTION OF

15 July 2015

Environmental Assessment Section  
Environmental Analysis Branch

Mr. Daniel Saunders  
Deputy State Historic Preservation Officer  
State of New Jersey Department of Environmental Protection  
Historic Preservation Office  
PO Box 420  
Trenton, NJ 08625-0420

Dear Mr. Saunders:

The U.S. Army Corps of Engineers, New York District (Corps) is preparing a feasibility study report for the Raritan Bay and Sandy Hook Bay, New Jersey, Combined Erosion Control and Coastal Storm Risk Management Project, Borough of Highlands. This report presents potential solutions to manage coastal storm risk in the Borough of Highlands, Monmouth County, New Jersey (Figure 1). The community has had a history of flooding and was severely impacted by Hurricane Sandy on October 2012. A feasibility study was under way at the time of Hurricane Sandy and alternatives have been reevaluated since the storm.

**Undertaking**

The shoreline of Highlands is composed primarily of bulkheads, which range in elevation from around +5 feet NAVD88 at low points to approximately +9 feet NAVD88 at the highest point. Small marinas, restaurants, and houses characterize the shoreline. Small beaches with public access are also located in the Borough. Several alternatives were considered as storm risk management measures. The Tentatively Selected Plan (TSP) consists of approximately 10,636 linear feet of raised bulkheads, raised ground surfaces, floodwalls, and reinforced dunes (seawalls with sand cover and vegetation cap). The project spans a geographic distance of approximately 8,000 linear feet along the bayshore of Highlands and ties into high ground (+10ft NAVD88 to +12ft NAVD88) at either end. For each segment of the project, features were chosen to match the existing surroundings, i.e., elevated bulkheads where the shoreline has bulkhead and reinforced dunes on the existing beaches. A closure gate is proposed to cross Bay Avenue. The final length and heights will be determined during project optimization.

**Area of Potential Effect (APE)**

The APE for this undertaking includes all areas to be directly impacted by activities required to construct project features as well as construction access and staging areas and, as required, environmental mitigation measures. The APE also includes viewsheds and landscapes in the vicinity of the Line of Protection (LOP).

## **Identification and Evaluation**

### *Archaeology*

The Corps prepared a Phase IA cultural resources report in 2005 in which archaeological testing of selected locations along the LOP was recommended. At that time your office, in response to the Corps' report, indicated there was no need for a Phase IB archeological survey (Enclosure 1, Correspondence). As per that opinion the Corps will undertake no archaeological testing where the project alignment remains unchanged. The western end of the alignment has been modified since the Phase I study to tie into a new development project. That development is being constructed by others so the Corps will undertake no testing there (see Figure 2). The eastern end of the alignment has been modified to tie into high ground along Bay Avenue (see Figure 3). An archaeological assessment, followed as needed by testing, will be undertaken of the newly proposed section of alignment.

### *Standing Structures*

The Phase IA report recommended a survey of historic architecture and streetscapes within the APE. In 2007 Panamerican Consultants, Inc, conducted a survey for the Corps which identified a number of properties potentially eligible for the National Register of Historic Places (NRHP) (See Figures 1, 4 and 5 and Enclosure 2). Your office did not provide comments on this report.

The report identified the potential Shrewsbury Avenue Historic District comprised of five houses along the east side of Shrewsbury Avenue (Numbers 26 - 34). Lynn Rakos, of my staff, met with Michelle Hughes on 4 June of this year and was informed that your office determined that following Hurricane Sandy and subsequent repair these structures are not eligible as an historic district nor are any of the properties individually eligible.

The 2007 study identified two bungalow communities as remains of what was once a larger collection of bungalow/cottage communities within Highlands. Honeysuckle Lodge (between Atlantic and Cedar Street) is a large intact group of bungalows while 58 Fifth Street consists of a small group of bungalows (Figure 4). The authors of the 2007 report noted that there is a lack of context for these middle-class bungalow and cottage communities of the New Jersey shore and they suggest that should a multiple property nomination be prepared these two properties should be included. It is the Corps' opinion that Honeysuckle Lodge and 58 Fifth Street are potentially eligible for the NRHP under Criterion A as part of a multiple property of bungalow and cottage communities.

The Corps consulted with your office and based on the "Windshield Survey," conducted following Hurricane Sandy, there were four locations identified along the Highlands shoreline that had the potential for significant resources (Figure 6). One of these parcels is Honeysuckle Lodge discussed above. Structures on the other three parcels, including a row of bungalows and a clam processing plant, were studied by the Corps in 2007 and were determined not significant. It is the Corps' opinion that there are no historically significant properties on these parcels.

While most of Bay Avenue was outside the immediate Corps study area and APE at the time of the 2007 survey the authors noted that this mixed-use main artery of Highlands had the potential to be a historic district but was not considered in any detail as it was out of the APE. Your

“Windshield Survey” included just a small section of Bay Avenue (Figure 7). One structure noted in both surveys is Sculthorpe’s Auditorium, also known as the “Purple Building” due to its paint color. It was built in 1909 and was the first theater in Highlands dedicated exclusively to stage and motion picture entertainment. No NRHP-eligibility assessment was given for this structure. Noted in the windshield survey was the 24 Bay Avenue (not shown on Figure 7, but see Figures 5 and 8). The structure was built c. 1907 as the Creighton Hotel and now the FLoBar Apartments. It is one of few remaining middle-class, pre-WWII hotels on the New Jersey shore that retains any integrity and was determined potentially eligible in the 2007 study. The other structure noted in both surveys is 60 Bay Avenue but no assessment of its eligibility was made. As indicated in the 2007 report, previous studies by others determined that Sasha's Boutique Outlet (1 Bay Avenue), Bahrs Real Estate (15 Bay Avenue), and Mewes Bros. Dairy (19 Bay Avenue) were not eligible for the NRHP but may be determined to contribute to the Bay Avenue Historic District (Figure 8). At 2 Bay Avenue is Bahr’s Landing Restaurant and Marina which is an NRHP-eligible property located 500 feet east of the APE.

Two properties in the APE were identified by the Borough of Highlands in its Master Plan as historically interesting; a Sears, Roebuck & Co. kit house at 257 Bay Avenue and the former clam-processing plant (Clam Shanty) at the end of Miller Street. They were both determined by the 2007 survey as too altered and lacking integrity to be individually NRHP-eligible.

The Twin Lights (Navesink Lighthouse) National Historic Landmark (NHL) and the Water Witch Casino, an NRHP-listed property, are on high ground rising above the Borough of Highlands approximately one mile west of the APE. The NRHP-listed Fort Hancock and Sandy Hook Proving Grounds Historic District and the Sandy Hook Lighthouse NHL are located approximately three miles north, across Sandy Hook Bay, from the APE. While well outside the APE, sections of the LOP are within the viewsheds of these historic properties.

### **Assessment of Effects**

It is the Corps’ opinion that the NRHP eligibility of Honeysuckle Lodge and 58 Fifth St., both identified previously as eligible as part of a thematic bungalow/cottage communities of the New Jersey shore, will need to be re-assessed following impacts from Hurricane Sandy and recovery measures. As the alignment is now proposed to cross Bay Avenue the eligibility of Bay Avenue, previously noted as a potentially eligible historic district before Hurricane Sandy, will need to be evaluated. The FloBar Apartments, determined to be a potentially individually eligible property by the Corps, is just three parcels from the now proposed closure gate. Sculthorpe’s Auditorium and 60 Bay Street would be included in the overall Bay Street evaluation but will also be evaluated for individual eligibility. It is clear that no above ground resources, if determined eligible, will be directly impacted by the proposed plan however indirect impacts to any properties determined significant will need to be evaluated and these include effects on viewsheds and setting. The project will have no effect on 2 Bay Avenue, Bahrs Restaurant and Marina, due to the distance of the property from the LOP.

Sections of the LOP are visible from the Sandy Hook Lighthouse NHL, the Twin Lights (Navesink Lighthouse) NHL, the Water Witch Casino and Fort Hancock Historic District. It is the Corps’ opinion that the project will have no adverse effect on the viewsheds from these properties as the views from them are focused out to sea. Also, the project as proposed will



match existing shoreline features so when viewed from these distant historic properties there will be little change from existing conditions.

The Corps has prepared a draft Programmatic Agreement (PA) which stipulates the work the Corps will undertake to assess the NRHP eligibility of the structures and potential Bay Avenue Historic District discussed above (Enclosure 3). The PA includes stipulations for archeological testing of locations where the LOP has shifted to cross Bay Avenue. An assessment of effects to any properties determined eligible will be made in coordination with your office and other interested parties. Mitigation measures will be developed, as per the PA, if avoidance of impacts to significant properties is not feasible. It should be noted that the Borough of Highlands has Master Plan which contains a Design Manual for the Central Business District which may be used to develop mitigation measures, if necessary, for Bay Avenue. The Corps will coordinate the draft PA with the Advisory Council on Historic Preservation, Federally Recognized Tribes and other interested parties. The draft PA will be available for public review in the Draft Environmental Assessment which will serve as the USACE's Section 106 public coordination.

Please review the enclosed documents and provide Section 106 comments, pursuant to 36 CFR 800.5. If you or your staff require additional information or have any questions, please contact Lynn Rakos, Project Archaeologist, at (917) 790-8629

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter M. Weppeler', written in a cursive style.

Peter M. Weppeler  
Chief, Environmental Analysis Branch

Enclosures

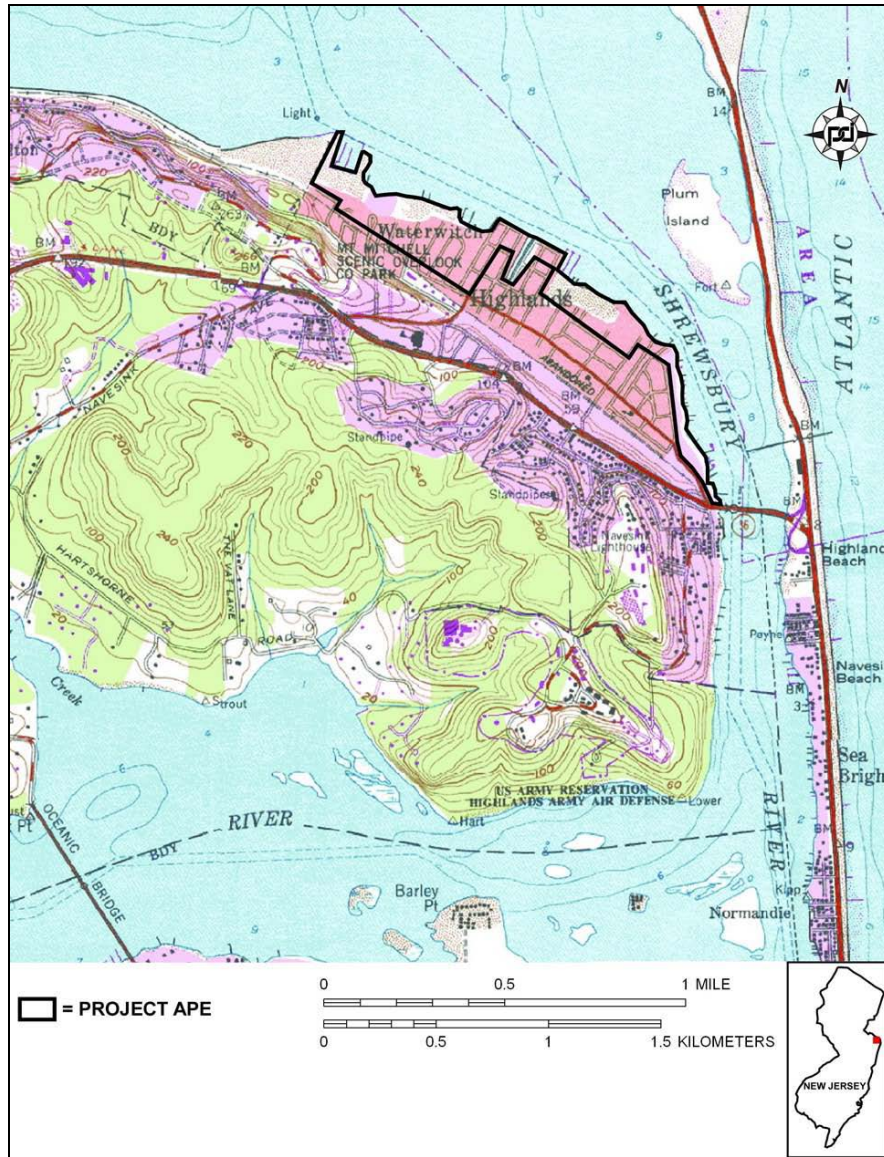


Figure 1. Project locations, Borough of Highlands, Monmouth County, NJ (Sandy Hook Quadrangle, USGS 1981 [1954]). The 2007 Historic Architectural Survey Area is outlined (Panamerican Consultants, Inc. 2007).

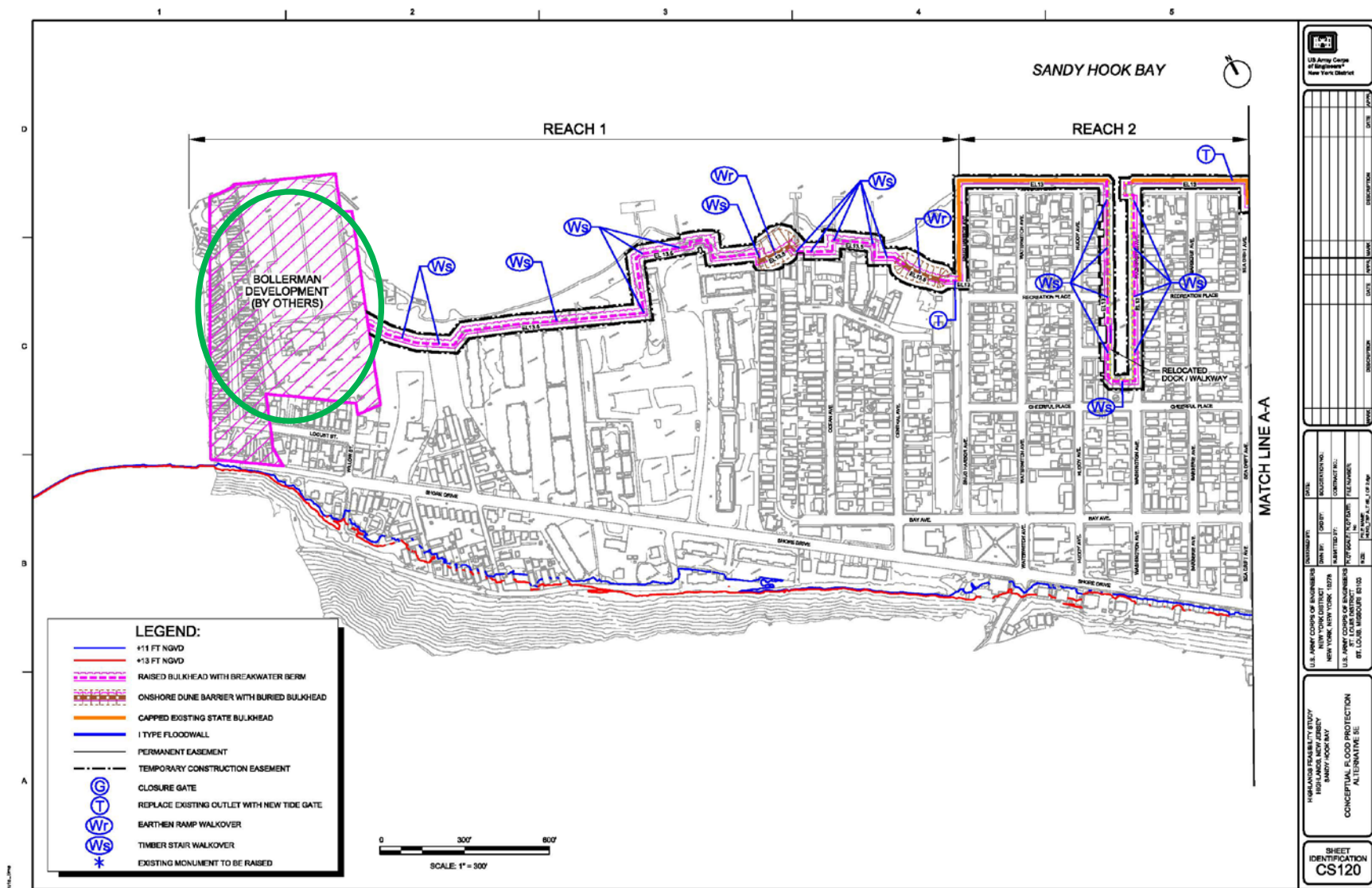


Figure 2. Tentatively Selected Plan. Change to former alignment at west end where a private development is being constructed (circled).



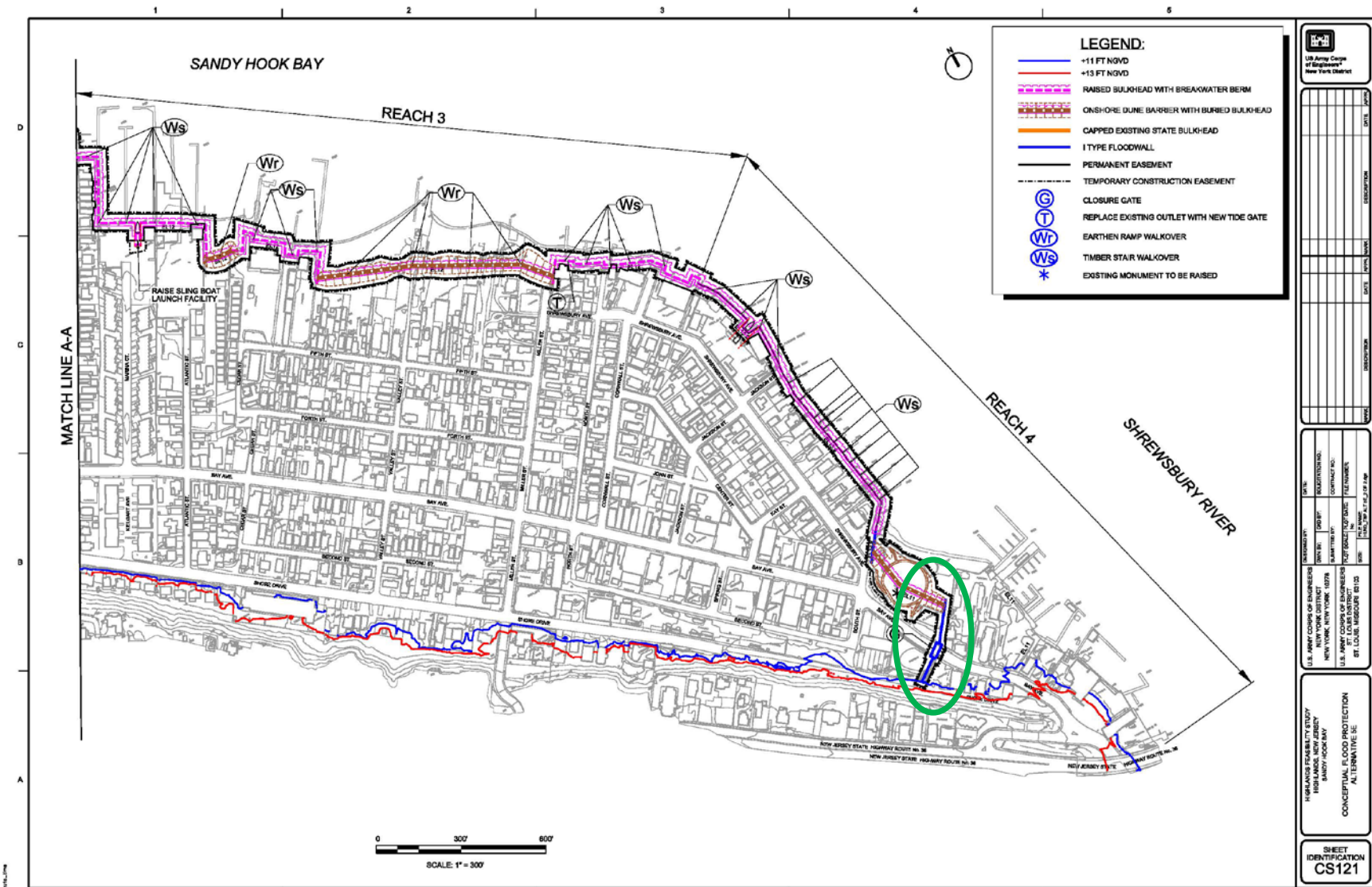


Figure 3. Tentatively Selected Plan. Change to former alignment at east end where alignment ties into high ground on south side of Bay Avenue (circled).

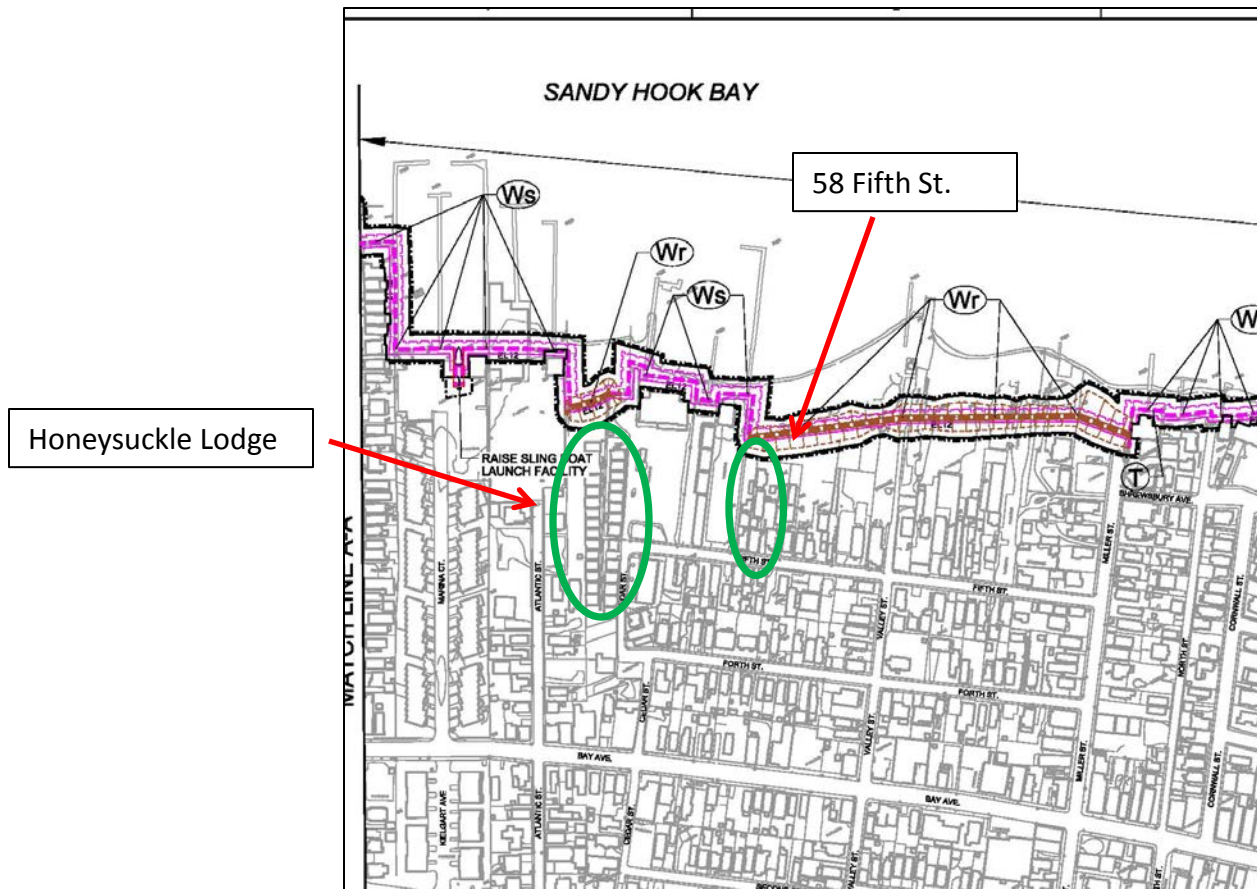


Figure 4. Potentially NRHP-eligible bungalow communities.

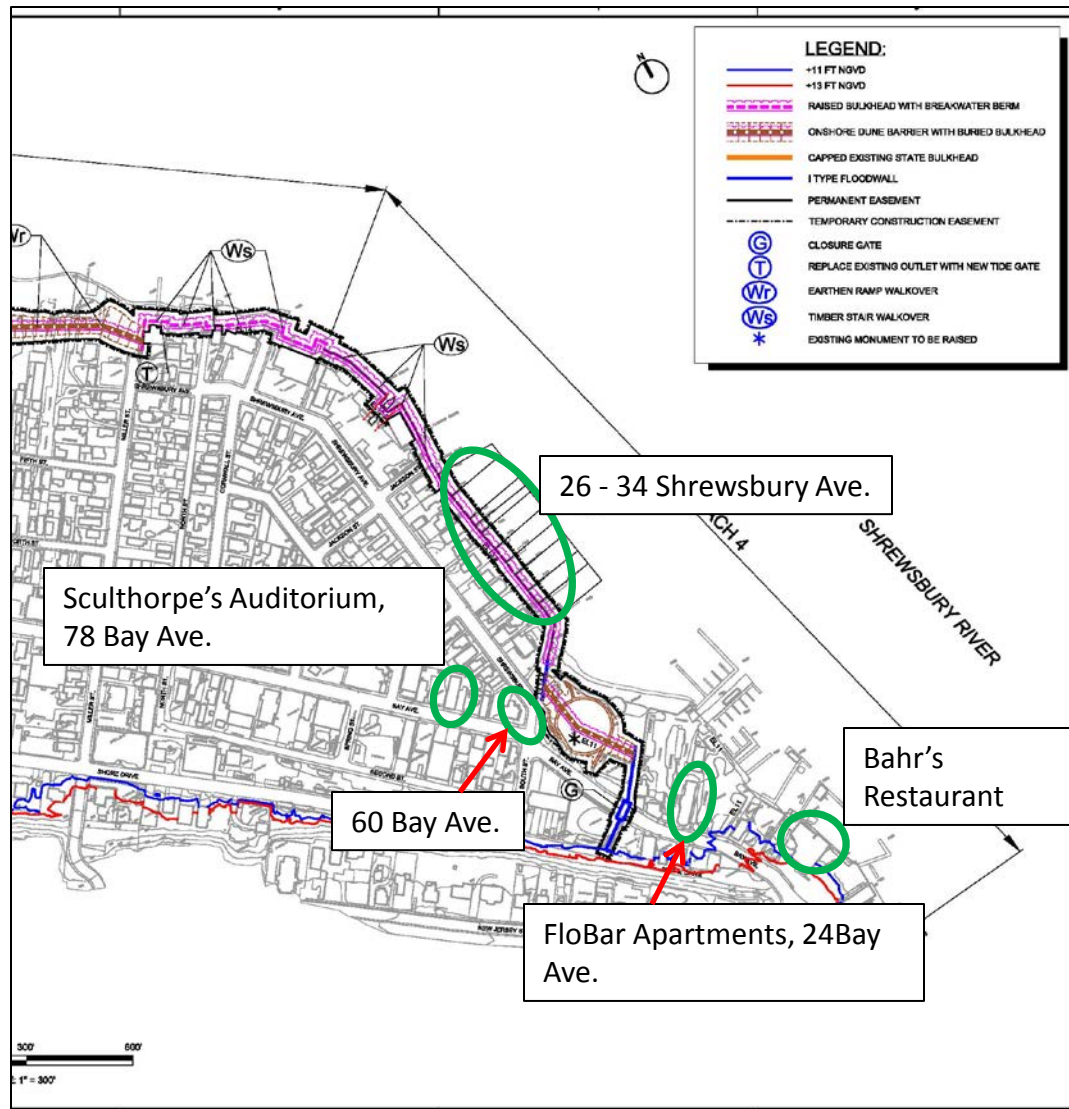


Figure 5. Identified properties





Figure 6. NJHPO Windshield survey – shoreline area



Figure 7. NJHPO Windshield survey – Bay Avenue area





Enclosure 1

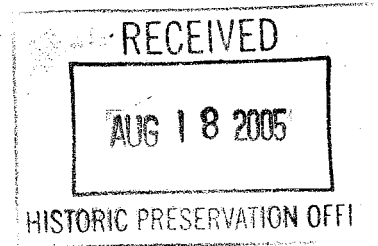
Correspondence



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
NEW YORK, N.Y. 10278-0090

July 25, 2005



Environmental Analysis Branch

Ms. Dorothy P. Guzzo  
Deputy State Historic Preservation Officer  
Historic Preservation Office  
New Jersey Department of Environmental Protection  
CN 404  
Trenton, New Jersey 08625-0404

Re: CORPS  
Feasibility Study: Sandy Hook & Raritan Bay Cultural Resource Draft Phase 1A Report,  
Borough of Highlands, Monmouth County, New Jersey

Dear Ms. Guzzo:

The U.S. Army Corps of Engineers, New York District (Corps), is pleased to furnish you with a draft copy of the Feasibility Study: Sandy Hook & Raritan Bay Cultural Resource Draft Phase 1A Report, Borough of Highlands, Monmouth County, New Jersey. The United States Army Corps of Engineers is the lead Federal Agency and the New Jersey Department of Environmental Protection is the lead state agency for the ongoing feasibility study to assess the potential alternative to aid in combined erosion control and storm damage reduction within the Borough of Highlands.

In keeping with the Section 106 process please provide and comments and/or concurrence with this report within 30 days of its receipt.

Thank you for your participation in the Section 106 process for this project. If you have any questions, please contact the Project Archaeologist, Kirsten Davis, (917) 790-8710.

Sincerely,

Leonard Houston  
Chief, Environmental Analysis Branch



## State of New Jersey

Richard J. Codey  
Acting Governor

Department of Environmental Protection  
Natural and Historic Resources, Historic Preservation Office  
PO Box 404, Trenton, NJ 08625-0404  
TEL: (609) 292-2023 FAX: (609) 984-0578  
[www.state.nj.us/dep/hpo](http://www.state.nj.us/dep/hpo)

Bradley M. Campbell  
Commissioner

HPO-I2005-137  
106/05-2109-1  
September 15, 2005

Leonard Houston  
Chief, Environmental Analysis Branch  
Department of the Army  
Corps of Engineers New York District  
Jacob K. Javits Federal Building  
New York, NY 10278-0090

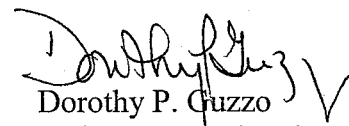
ATTN: Kirsten Davis

Dear Mr. Houston:

Thank you for providing the opportunity to review the July 2005 draft copy of the Feasibility Study: Sandy Hook & Raritan Bay Cultural Resource Draft Phase IA Report, Borough of Highlands, Monmouth County, New Jersey. The report is acceptable as prepared. In terms of U.S. Army Corps of Engineers' recommendations for additional cultural resource survey, unless there are project changes, the Office does not believe that Phase IB archaeological survey is likely to result in identification of National Register eligible archaeological properties. However, architectural survey to identify significant buildings and historic districts within the Area of Potential Effects and to assess project impacts to eligible properties should be conducted.

Thank you again for providing this opportunity for review and Consultation. If you have any questions, please do not hesitate to contact Deborah Fimbel, staff reviewer for this project, at 609-984-6019.

Sincerely,

  
Dorothy P. Guzzo  
Deputy State Historic  
Preservation Officer

DPG:DRF



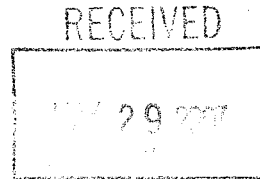
DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
NEW YORK, N.Y. 10278-0090

REPLY TO  
ATTENTION OF

Environmental Assessment Branch

May 2, 2007

Ms. Dorothy P. Guzzo  
Deputy State Historic Preservation Officer  
Historic Preservation Office  
New Jersey Department of Environmental Protection  
CN 404  
Trenton, New Jersey 08625-0404



HISTORIC PRESERVATION OFFICE

07-1388-1 JF

Re: CORPS

National Register of Historic Places Evaluation and Historic Context for the Borough of  
Highlands, Monmouth County, New Jersey

Dear Ms. Guzzo:

The U.S. Army Corp  
with a draft copy of the *Nati*  
*the Borough of Highlands, A*  
Engineers is the lead Federal  
alternatives to aid in combin  
of Highlands.

SNRA

strict (Corps), is pleased to furnish you  
*es Evaluation and Historic Context for*  
The United States Army Corps of  
bility study to assess the potential  
damage reduction within the Borough

This study has found one structure and two districts that are eligible for the National Register of Historic Places. The FloBar Apartments (ca. 1907) are recommended as being individually eligible for the NRHP under Criterion A. The two districts that were identified as potentially eligible are: 1) Shrewsbury Avenue District and a portion of Bay Avenue. All three recommendations are being made based upon the building or districts relevance to the popularity of the Jersey Shore as a summer resort throughout the 20<sup>th</sup> century.

Please review and provide comments and/or concurrence on this report within 30 days of receipt of this letter.

Thank you for your participation in the Section 106 process for this project. If you have any questions, please contact the Project Archaeologist, Kirsten Smyth, (917) 790-8710.

Sincerely,

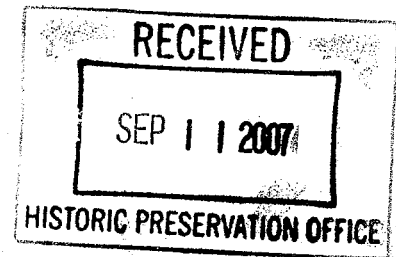
Leonard Houston  
Chief, Environmental Analysis Branch



DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
NEW YORK, N.Y. 10278-0090

REPLY TO  
ATTENTION OF  
Environmental Assessment Branch

August 22, 2007



Ms. Dorothy P. Guzzo  
Deputy State Historic Preservation Officer  
Historic Preservation Office  
New Jersey Department of Environmental Protection  
CN 404  
Trenton, New Jersey 08625-0404

Re: CORPS  
National Register of Historic Places Evaluation and Historic Context for the Borough of  
Highlands, Monmouth County, New Jersey

Dear Ms. Guzzo:

The U.S. Army Corps of Engineers, New York District (Corps), is pleased to furnish you with a final copy of the *National Register of Historic Places Evaluation and Historic Context for the Borough of Highlands, Monmouth County, New Jersey*. The United States Army Corps of Engineers is the lead Federal Agency for the ongoing feasibility study to assess the potential alternatives to aid in combined erosion control and storm damage reduction within the Borough of Highlands.

This study has found one structure and two districts that are eligible for the National Register of Historic Places. The FloBar Apartments (ca. 1907) are recommended as being individually eligible for the NRHP under Criterion A. The two districts that were identified as potentially eligible are: 1) Shrewsbury Avenue District and a portion of Bay Avenue. All three recommendations are being made based upon the building or districts relevance to the popularity of the Jersey Shore as a summer resort throughout the 20<sup>th</sup> century.

As of August 20, 2007, we have not received comments from your office. We have finalized the document and will proceed as recommend in the report.

Thank you for your participation in the Section 106 process for this project. If you have any questions, please contact the Project Archaeologist, Kirsten Smyth, (917) 790-8710.

Sincerely,

Leonard Houston  
Chief, Environmental Analysis Branch

## Enclosure 2: Identified Properties within the APE and NRHP-eligibility Determinations

Name	Address	NRHP Eligibility
Honeysuckle Lodge	Between Atlantic and Cedar Street	Potentially eligible
58 Fifth Street Bungalows	58 Fifth Street	Potentially eligible
Shrewsbury Avenue District	26 – 34 Shrewsbury Avenue	Not eligible
Clam Shanty	Bay end of Miller Street	Not eligible
Bay Avenue Historic District		Potentially eligible
The following Bay Avenue properties may be found to be contributing elements to the potential Bay Avenue Historic District. Individual eligibility is given below for each structure.		
Creighton Hotel (FLoBar Apartments)	24 Bay Avenue	Potentially eligible
Sculthorpe's Auditorium (the "Purple Building")	78 Bay Avenue	Potentially eligible
Sasha's Boutique Outlet	1 Bay Avenue	Not eligible
Bahrs Real Estate	15 Bay Avenue	Not eligible
Mewes Bros. Dairy	19 Bay Avenue	Not eligible
Sears, Roebuck & Co. kit house	257 Bay Avenue	Not eligible
Dwelling	60 Bay Avenue	Potentially eligible
Bahr's Landing Restaurant and Marina	2 Bay Avenue	Eligible

Enclosure 3

Draft Programmatic Agreement

Please See Draft EA Appendix A5





**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

REPLY TO  
ATTENTION OF

15 July 2015

Environmental Assessment Section  
Environmental Analysis Branch

Mr. Reid Nelson, Director  
Office of Federal Agency Programs  
Advisory Council on Historic Preservation  
The Old Post Office Building  
1100 Pennsylvania Avenue, N.W., Suite 809  
Washington, D.C. 20004

Dear Mr. Nelson:

The U.S. Army Corps of Engineers, New York District (Corps) is preparing a feasibility study report for the Raritan Bay and Sandy Hook Bay, New Jersey, Combined Erosion Control and Coastal Storm Risk Management Project, Borough of Highlands. This report presents potential solutions to manage coastal storm risk in the Borough of Highlands, Monmouth County, New Jersey (Figure 1). The community has had a history of flooding and was severely impacted by Hurricane Sandy on October 2012. A feasibility study was under way at the time of Hurricane Sandy and alternatives have been reevaluated since the storm.

**Undertaking**

The shoreline of Highlands is composed primarily of bulkheads, which range in elevation from around +5 feet NAVD88 at low points to approximately +9 feet NAVD88 at the highest point. Small marinas, restaurants, and houses characterize the shoreline. Small beaches with public access are also located in the Borough. Several alternatives were considered as storm risk management measures. The Tentatively Selected Plan (TSP) consists of approximately 10,636 linear feet of raised bulkheads, raised ground surfaces, floodwalls, and reinforced dunes (seawalls with sand cover and vegetation cap). The project spans a geographic distance of approximately 8,000 linear feet along the bayshore of Highlands and ties into high ground (+10ft NAVD88 to +12ft NAVD88) at either end. For each segment of the project, features were chosen to match the existing surroundings, ie., elevated bulkheads where the shoreline has bulkhead and reinforced dunes on the existing beaches. A closure gate is proposed to cross Bay Avenue (Figures 2 and 3). The final length and heights will be determined during project optimization

**Area of Potential Effect (APE)**

The APE for this undertaking includes all areas to be directly impacted by activities required to construct project features as well as construction access and staging areas and, as required, environmental mitigation measures. The APE also includes viewsheds and landscapes in the vicinity of the Line of Protection (LOP).

## **Identification and Evaluation**

### *Archaeology*

The Corps prepared a Phase IA cultural resources report in 2005 in which archaeological testing of selected locations along the LOP was recommended. At that time the New Jersey Historic Preservation Office (NJHPO) in response to the Corps' report, indicated there was no need for a Phase IB archeological survey (Enclosure 1, Correspondence). As per that opinion the Corps will undertake no archaeological testing where the project alignment remains unchanged. The western end of the alignment has been modified since the Phase I study to tie into a new development project. That development is being constructed by others so the Corps will undertake no testing there (see Figure 2). The eastern end of the alignment has been modified to tie into high ground along Bay Avenue (see Figure 3). An archaeological assessment, followed as needed by testing, will be undertaken of the newly proposed section of alignment.

### *Standing Structures*

The Phase IA report recommended a survey of historic architecture and streetscapes within the APE. In 2007 Panamerican Consultants, Inc, conducted a survey for the Corps which identified a number of properties potentially eligible for the National Register of Historic Places (NRHP) (See Figures 1, 4 and 5 and Enclosure 2).

The 2007 report identified the potential Shrewsbury Avenue Historic District comprised of five houses along the east side of Shrewsbury Avenue (Numbers 26 - 34). Following Hurricane Sandy and subsequent repair the NJHPO has determined that these structures are not eligible as an historic district nor are any of the properties individually eligible (Michelle Hughes, personal communication, 2015).

The 2007 study identified two bungalow communities as remains of what was once a larger collection of bungalow/cottage communities within Highlands. Honeysuckle Lodge (between Atlantic and Cedar Street) is a large intact group of bungalows while 58 Fifth Street consists of a small group of bungalows (Figure 4). The authors of the 2007 report noted that there is a lack of context for these middle-class bungalow and cottage communities of the New Jersey shore and they suggest that should a multiple property nomination be prepared these two properties should be included. It is the Corps' opinion that Honeysuckle Lodge and 58 Fifth Street are potentially eligible for the NRHP under Criterion A as part of a multiple property of bungalow and cottage communities.

The NJHPO conducted a "windshield survey" of above ground resources immediately following Hurricane Sandy. The survey was limited to the areas that experienced surge from the storm. This survey identified for the Federal Emergency Management Agency (FEMA) and others involved in disaster recovery areas of known historic resources, potential historic properties/districts and properties/districts that were not likely to be significant. This survey identified four locations along the Highlands shoreline that had the potential for significant resources. One of the parcels was Honeysuckle Lodge, discussed above. The three other parcels identified in the windshield survey were surveyed in 2007 and no significant structures were identified.

The NJHPO windshield survey highlighted three structures on Bay Avenue. It must be noted that the survey did not extend far onto Bay Avenue due to survey limits associated with the storm surge. While Bay Avenue was also outside the immediate CENAN study area and APE at the time of the 2007 survey, the authors noted that this mixed-use main artery of Highlands had the potential to be a historic district but it was not considered in any detail as it was outside of the APE.

One structure noted by both surveys was 78 Bay Avenue, (Sculthorpe's Auditorium), also known as the "Purple Building" due to its paint color. It was built in 1909 and was the first theater in Highlands dedicated exclusively to stage and motion picture entertainment. No NRHP-eligibility assessment was given for this structure by either survey. Also noted in the windshield survey was the 24 Bay Avenue. The structure was built c. 1907 as the Creighton Hotel and is now the FLoBar Apartments. It is one of few remaining middle-class, pre-WWII hotels on the New Jersey shore that retains any integrity and was determined potentially individually eligible. The other structure noted in the windshield survey is 60 Bay Avenue which is included in the 2007 report but was also not given an evaluation of eligibility. As indicated in the 2007 report, previous studies by others determined that Sasha's Boutique Outlet (1 Bay Avenue), Bahrs Real Estate (15 Bay Avenue), and Mewes Bros. Dairy (19 Bay Avenue) were not eligible for the NRHP but may be determined to contribute to the Bay Avenue Historic District. At 2 Bay Avenue is Bahr's Landing Restaurant and Marina which is an NRHP-eligible property located 500 feet east of the APE.

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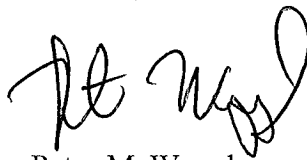
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We invite you to consult with us on the Borough of Highlands Combined Erosion Control and Coastal Storm Risk Management Project and participate in the PA as per 36 CFR Part 800.6. If you or your staff require additional information or have any questions, please contact Lynn Rakos, Project Archaeologist, at (917) 790-8629

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter M. Wepler', with a stylized, cursive script.

Peter M. Wepler  
Chief, Environmental Analysis Branch

Enclosures



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

15 July 2015

Environmental Assessment Section  
Environmental Analysis Branch

Mr. Jason Ross  
Delaware Nation  
Section 106 Manager  
P.O. Box 825  
Anadarko, OK 73005

Dear Mr. Ross:

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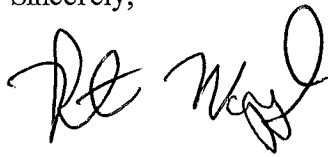
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We invite you to consult with us on the Borough of Highlands Combined Erosion Control and Coastal Storm Risk Management Project and participate in the PA. If you or your staff require additional information or have any questions, please contact Lynn Rakos, Project Archaeologist, at (917) 790-8629

Sincerely,

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Peter M. Wepler  
Chief, Environmental Analysis Branch

Enclosures





**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

REPLY TO  
ATTENTION OF

15 July 2015

Environmental Assessment Section  
Environmental Analysis Branch

Ms. Blair Fink  
Delaware Tribe Historic Preservation Representatives  
Department of Anthropology  
Gladfelter Hall  
Temple University  
1115 W. Polett Walk  
Philadelphia, PA 19122

Dear Ms. Fink:

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**Undertaking**

The shoreline of Highlands is composed primarily of bulkheads, which range in elevation from around +5 feet NAVD88 at low points to approximately +9 feet NAVD88 at the highest point. Small marinas, restaurants, and houses characterize the shoreline. Small beaches with public access are also located in the Borough. Several alternatives were considered as storm risk management measures. The Tentatively Selected Plan (TSP) consists of approximately 10,636 linear feet of raised bulkheads, raised ground surfaces, floodwalls, and reinforced dunes (seawalls with sand cover and vegetation cap). The project spans a geographic distance of approximately 8,000 linear feet along the bayshore of Highlands and ties into high ground (+10ft NAVD88 to +12ft NAVD88) at either end. For each segment of the project, features were chosen to match the existing surroundings, ie., elevated bulkheads where the shoreline has bulkhead and reinforced dunes on the existing beaches. A closure gate is proposed to cross Bay Avenue (Figures 2 and 3). The final length and heights will be determined during project optimization

**Area of Potential Effect (APE)**

The APE for this undertaking includes all areas to be directly impacted by activities required to construct project features as well as construction access and staging areas and, as required, environmental mitigation measures. The APE also includes viewsheds and landscapes in the vicinity of the Line of Protection (LOP).

## **Identification and Evaluation**

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Enclosures



**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

REPLY TO  
ATTENTION OF

15 July 2015

Environmental Assessment Section  
Environmental Analysis Branch

Ms. Kim Jumper  
Tribal Historic Preservation Officer  
Shawnee Tribe of Oklahoma  
29 S Highway 69A  
Miami, OK 74355

Dear Ms. Jumper:

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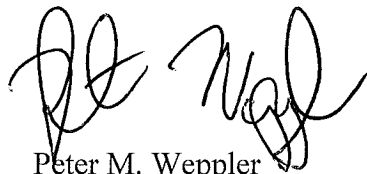
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Enclosures





**DEPARTMENT OF THE ARMY**  
**NEW YORK DISTRICT, CORPS OF ENGINEERS**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**NEW YORK, N.Y. 10278-0090**

REPLY TO  
ATTENTION OF

15 July 2015

Environmental Assessment Section  
Environmental Analysis Branch

Mr. Russell Card, President  
The Historical Society of Highlands  
P.O. Box 13,  
Highlands, New Jersey 07732

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The NJHPO conducted a "windshield survey" of above ground resources immediately following Hurricane Sandy. The survey was limited to the areas that experienced surge from the storm. This survey identified for the Federal Emergency Management Agency (FEMA) and others involved in disaster recovery areas of known historic resources, potential historic properties/districts and properties/districts that were not likely to be significant. This survey identified four locations along the Highlands shoreline that had the potential for significant resources. One of the parcels was Honeysuckle Lodge, discussed above. The three other parcels identified in the windshield survey were surveyed in 2007 and no significant structures were identified.

The NJHPO windshield survey highlighted three structures on Bay Avenue. It must be noted that the survey did not extend far onto Bay Avenue due to survey limits associated with the storm surge. While Bay Avenue was also outside the immediate CENAN study area and APE at the time of the 2007 survey, the authors noted that this mixed-use main artery of Highlands had the potential to be a historic district but it was not considered in any detail as it was outside of the APE.

One structure noted by both surveys was 78 Bay Avenue, (Sculthorpe's Auditorium), also known as the "Purple Building" due to its paint color. It was built in 1909 and was the first theater in Highlands dedicated exclusively to stage and motion picture entertainment. No NRHP-eligibility assessment was given for this structure by either survey. Also noted in the windshield survey was the 24 Bay Avenue. The structure was built c. 1907 as the Creighton Hotel and is now the FLoBar Apartments. It is one of few remaining middle-class, pre-WWII hotels on the New Jersey shore that retains any integrity and was determined potentially individually eligible. The other structure noted in the windshield survey is 60 Bay Avenue which is included in the 2007 report but was also not given an evaluation of eligibility. As indicated in the 2007 report, previous studies by others determined that Sasha's Boutique Outlet (1 Bay Avenue), Bahrs Real Estate (15 Bay Avenue), and Mewes Bros. Dairy (19 Bay Avenue) were not eligible for the NRHP but may be determined to contribute to the Bay Avenue Historic District. At 2 Bay Avenue is Bahr's Landing Restaurant and Marina which is an NRHP-eligible property located 500 feet east of the APE.

Two properties in the APE were identified by the Borough of Highlands in its Master Plan as historically interesting; a Sears, Roebuck & Co. kit house at 257 Bay Avenue and the former clam-processing plant (Clam Shanty) at the end of Miller Street. They were both determined by the 2007 survey as too altered and lacking integrity to be individually NRHP-eligible.

The Twin Lights (Navesink Lighthouse) National Historic Landmark (NHL) and the Water Witch Casino, an NRHP-listed property, are on high ground rising above the Borough of Highlands approximately one mile west of the APE. The NRHP-listed Fort Hancock and Sandy Hook Proving Grounds Historic District and the Sandy Hook Lighthouse NHL are located approximately three miles north, across Sandy Hook Bay, from the APE. While well outside the APE, sections of the LOP are within the viewsheds of these historic properties.

### **Assessment of Effects**

It is the Corps' opinion that the NRHP eligibility of Honeysuckle Lodge and 58 Fifth St., both identified previously as eligible as part of a thematic bungalow/cottage communities of the New Jersey shore, will need to be re-assessed following impacts from Hurricane Sandy and recovery measures. As the alignment is now proposed to cross Bay Avenue the eligibility of Bay Avenue, previously noted as a potentially eligible historic district before Hurricane Sandy, will need to be evaluated. The FloBar Apartments, determined to be a potentially individually eligible property by the Corps, is just three parcels from the now proposed closure gate. Sculthorpe's Auditorium and 60 Bay Street would be included in the overall Bay Street evaluation but will also be evaluated for individual eligibility. It is clear that no above ground resources, if determined eligible, will be directly impacted by the proposed plan however indirect impacts to any

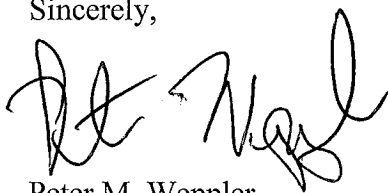
properties determined significant will need to be evaluated and these include effects on viewsheds and setting. The project will have no effect on 2 Bay Avenue, Bahrs Restaurant and Marina, due to the distance of the property from the LOP.

Sections of the LOP are visible from the Sandy Hook Lighthouse NHL, the Twin Lights (Navesink Lighthouse) NHL, the Water Witch Casino and Fort Hancock Historic District. It is the Corps' opinion that the project will have no adverse effect on the viewsheds from these properties as the views from them are focused out to sea. Also, the project as proposed will match existing shoreline features so when viewed from these distant historic properties there will be little change from existing conditions.

The Corps has prepared a draft Programmatic Agreement (PA) which stipulates the work the Corps will undertake to assess the NRHP eligibility of the structures and potential Bay Avenue Historic District discussed above (Enclosure 3). The PA includes stipulations for archeological testing of locations where the LOP has shifted to cross Bay Avenue. An assessment of effects to any properties determined eligible will be made in coordination with NJHPO and other interested parties. Mitigation measures will be developed, as per the PA, if avoidance of impacts to significant properties is not feasible. It should be noted that the Borough of Highlands has Master Plan which contains a Design Manual for the Central Business District which may be used to develop mitigation measures, if necessary, for Bay Avenue. The Corps will coordinate the draft PA with NJHPO, the Advisory Council on Historic Preservation, Federally Recognized Tribes and other interested parties. The draft PA will be available for public review in the Draft Environmental Assessment which will serve as the USACE's Section 106 public coordination.

We invite you to consult with us on the Borough of Highlands Combined Erosion Control and Coastal Storm Risk Management Project and participate in the PA. If you or your staff require additional information or have any questions, please contact Lynn Rakos, Project Archaeologist, at (917) 790-8629

Sincerely,

A handwritten signature in black ink, appearing to read "Peter M. Wepler", written in a cursive style.

Peter M. Wepler  
Chief, Environmental Analysis Branch

Enclosures

PROGRAMMATIC AGREEMENT  
AMONG  
THE U. S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT,  
AND  
THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICE  
REGARDING  
RARITAN BAY AND SANDY HOOK BAY, HIGHLANDS, NEW JERSEY  
COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY  
MONMOUTH COUNTY, NEW JERSEY

WHEREAS, the U.S. Army Corps of Engineers, New York District, (New York District) has been authorized to conduct a coastal storm risk management feasibility study along the Raritan Bay shore in the Borough of Highlands, Monmouth County, New Jersey, and

WHEREAS, the New York District was originally authorized to undertake a feasibility study through a resolution by the Committee on Public Works and Transportation of the U.S. House of Representatives, dated August 1990 for the purposes of erosion control and storm damage prevention within Raritan Bay and Sandy Hook Bay, NJ; and

WHEREAS, authorization to complete the feasibility study for this Undertaking has been provided to the New York District under P.L. 113-2, the Disaster Relief Appropriations Act of 2013, following October 2012 Hurricane Sandy; and

WHEREAS, the Undertaking, as proposed, spans a geographic distance of approximately 8,000 linear feet of protection along the coast of Highlands and ties into high ground at each end. As the project follows the actual perimeter of the shoreline, its total length is 10,737 linear ft., consisting floodwalls and raised ground surfaces built to elevation +14 feet North American Vertical Datum of 1988. A closure gate is proposed to cross Bay Avenue. Interior drainage features, such as ponding area and/or diversion culvert are proposed. (Appendix A); and

WHEREAS, the New York District has defined the Area of Potential Effect (APE) for this Undertaking to include all areas impacted by activities required to construct the floodwalls, raised ground surfaces, interior drainage features, and any required environmental mitigation measures and staging areas; and

WHEREAS, the New York District is applying the National Register of Historic Places (NRHP) Criteria (Criteria) to properties identified within the APE on a phased basis, and to date has completed surveys within a substantial portion of the APE (Appendix B) and has determined NRHP eligibility of properties (Appendix C), with the recognition that additional identifications and evaluations are required for project actions that have subsequently been modified or which have not yet been finalized; and

106 consultation process; the ACHP has opted to not participate in the process at this time; no other comments were received; and

WHEREAS the New York District made the Draft Programmatic Agreement (PA) available for public review in the Draft Environmental Assessment prepared under the National Environmental Policy Act which will serve as the District's Section 106 public coordination for this undertaking; and

WHEREAS, in accordance with 36 CFR Part 800.14, the New York District and the NJHPO have determined that execution of this PA will establish alternative procedures to streamline the coordination of the Project; and

WHEREAS, the New York District shall continue to consult with the NJHPO regarding plans and surveys to identify, evaluate and treat historic properties as the New York District implements all phases of the Undertaking; and

WHEREAS, the New York District will implement the provisions for the PA as funding for the project is appropriated in future years; and

NOW, THEREFORE, the New York District and the NJHPO agree that the Undertaking shall be administered in accordance with the following stipulations to satisfy the New York District's Section 106 responsibility for all individual actions of the Undertaking.

#### Stipulations

The New York District shall ensure that the following measures are carried out:

##### I. IDENTIFICATION

A. The New York District shall consult with the NJHPO to develop plans to complete the identification of historic properties within the Undertaking's APE.

B. The New York District shall revise plans to address comments and recommendations provided by the NJHPO prior to proceeding with identification and evaluation activities.

C. The New York District shall ensure that qualified professionals meeting the NPS professional qualifications for the appropriate discipline [National Park Service Professional Qualification Standards, Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44738-39)] are used to complete all identification and evaluation plans related to this undertaking, to include archaeological surveys and testing, historic structure inventories, and documentation.

B. The New York District shall ensure that qualified professionals meeting the NPS professional qualifications for the appropriate discipline [National Park Service Professional Qualification Standards, Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44738-39)] are used to develop and implement all treatment plans.

C. Avoidance. The preferred treatment is avoidance of effects to historic properties. The New York District shall, to the extent feasible, avoid historic properties either through project design changes, use of temporary fencing or barricades, realignments, landscaping, or other measures that will protect historic properties. The New York District, and the NJHPO shall consult to develop plans for avoiding effects to historic properties. The New York District shall incorporate feasible avoidance measures into project activities as part of the implementation of the Undertaking. If, in consultation with the NJHPO, avoidance is determined to be infeasible, the New York District shall develop and implement treatment/mitigation plans consistent with Stipulation II of this PA.

D. Preservation In Place. When the New York District and NJHPO agree that complete avoidance of historic properties is infeasible, the New York District shall explore preservation in place, if appropriate. Preservation in place may entail partial avoidance or protection of historic properties against project-related activities in proximity to the property. The New York District shall preserve properties in place through project design, i.e incorporating color, texture, scale, and/or materials which are compatible with the architectural or historic character of the historic property; use of fencing, berms or barricades; and/or preservation of vegetation including mature trees, landscaping and planting which screen the property. If the New York District, in consultation with the NJHPO, determines that preservation in place is infeasible, the New York District shall develop and implement treatment/mitigation plans consistent with Stipulation II of this PA.

E. Buildings and Structures and Districts. The New York District, in consultation with the NJHPO, shall determine the effect the Undertaking will have on listed or eligible historic building, district, and structure and ensure that a treatment plan be developed for these properties.

F. Archaeological Sites

a. Archaeological Data Recovery: The District shall develop a data recovery plan for archaeological sites eligible solely under NRHP Criterion D which the New York District and the NJHPO agree cannot be avoided or appropriately preserved in place. The data recovery plan to retrieve significant archaeological information will be developed and implemented by the New York District or its representative(s), following approval from the NJHPO and prior to the implementation of project-related activities within or in the vicinity of the archaeological sites.

## V. RESOLUTION OF ADVERSE EFFECTS

A. When the New York District, in consultation with the NJHPO, determines that Undertaking related activities cannot adhere to treatment plans developed in accordance with Stipulation II.E. or would otherwise have an adverse effect, the New York District shall:

1. Develop a Standard Mitigation Agreement (SMA) with the NJHPO; or
2. Consult with the ACHP to develop a Memorandum of Agreement (MOA) in accordance with 36 CFR Part 800.6 (c).

B. The New York District shall invite the ACHP to participate in consultation when:

1. The New York District and SHPO determine that an agreement or a SMA cannot be reached;
2. a National Historic Landmark is involved;
3. human remains have been identified; or
4. there is widespread public interest in a historic property or properties.

C. The New York District and the NJHPO, and interested parties as appropriate, shall consult to develop alternatives to mitigate or minimize adverse effects. The analysis of alternatives shall consider program needs, cost, public benefit and values, and design feasibility.

D. Development of Standard Mitigation Agreements (SMA).

1. The New York District, in consultation with the NJHPO and interested parties, as appropriate, shall develop SMAs for historic properties which will be adversely affected by the Undertaking. The New York District shall submit the SMA to the NJHPO for review and approval by certified mail. The NJHPO shall have 30 days from receipt of adequate information in which to review and comment on the SMA(s). If the NJHPO fails to respond within 30 days, or if there is disagreement, the New York District shall notify the ACHP and consult to develop the proposed SMA into an MOA and submit copies of background information and the proposed SMA to facilitate consultation to develop an MOA in accordance with 36 CFR Part 800. After signing by the New York District and NJHPO, the New York District shall file all SMAs with the ACHP.

### Standard Mitigation Agreements (SMA)

1. SMAs developed between the New York District and the NJHPO may include one or more of the following stipulations which address routine adverse effects that may occur to historic properties as a result of project implementation.

2. Recordation. The New York District shall consult with the NJHPO or Historic American Building Survey/Historic American Engineering Record (HABS/HAER) to determine the appropriate level and type of recordation for affected resources. For historic properties with state and/or local significance, recordation shall be consistent with the requirements and standards of the Department of the Interior (April 2003). All



## VII. TREATMENT OF HUMAN REMAINS:

If any human remains and/or grave-associated artifacts are encountered, the New York District, the NJHPO and Tribes shall consult to develop a treatment plan that is responsive to the ACHP's "Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects" (February 23, 2007), the Native American Grave Protection and Repatriation Act, As Amended (PL 101-601, 25 U.S.C. 3001 et seq.) and the U.S. Army Corps of Engineers, Tribal Consultation Policy (4 October 2012).

A. Human remains must be treated with the utmost respect and dignity. All work must stop in the vicinity of the find and the site will be secured.

B. The medical examiner/coroner, local law enforcement, the NJHPO and tribes will be notified. The coroner and local law enforcement will determine if the remains are forensic or archaeological in nature.

C. If the human remains are determined to be Native American they shall be left in place and protected from further disturbance until a treatment plan has been developed and approved by the New York District, NJHPO and Tribes.

D. If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for avoidance or removal is developed and approved by the New York District, NJHPO, Federally Recognized Tribes and other parties, as appropriate.

E. Avoidance of human remains is the preferred treatment.

## VIII. ADMINISTRATIVE TERMS

### A. REVIEW PERIODS


The NJHPO, ACHP, the Delaware Nation, the Delaware Tribe of Indians, the Shawnee Tribe of Oklahoma and any other interested party shall have 30 days to review and/or object to determinations, evaluations, plans, reports, and other documents submitted to them by the New York District.

### B. DISPUTE RESOLUTION

1. The New York District and the signatories shall attempt to resolve any disagreement arising from implementation of this PA. If there is a determination that the disagreement cannot be resolved, the New York District shall request the ACHP's recommendations or request the comments of the ACHP in accordance with 36 CFR Part 800.7.

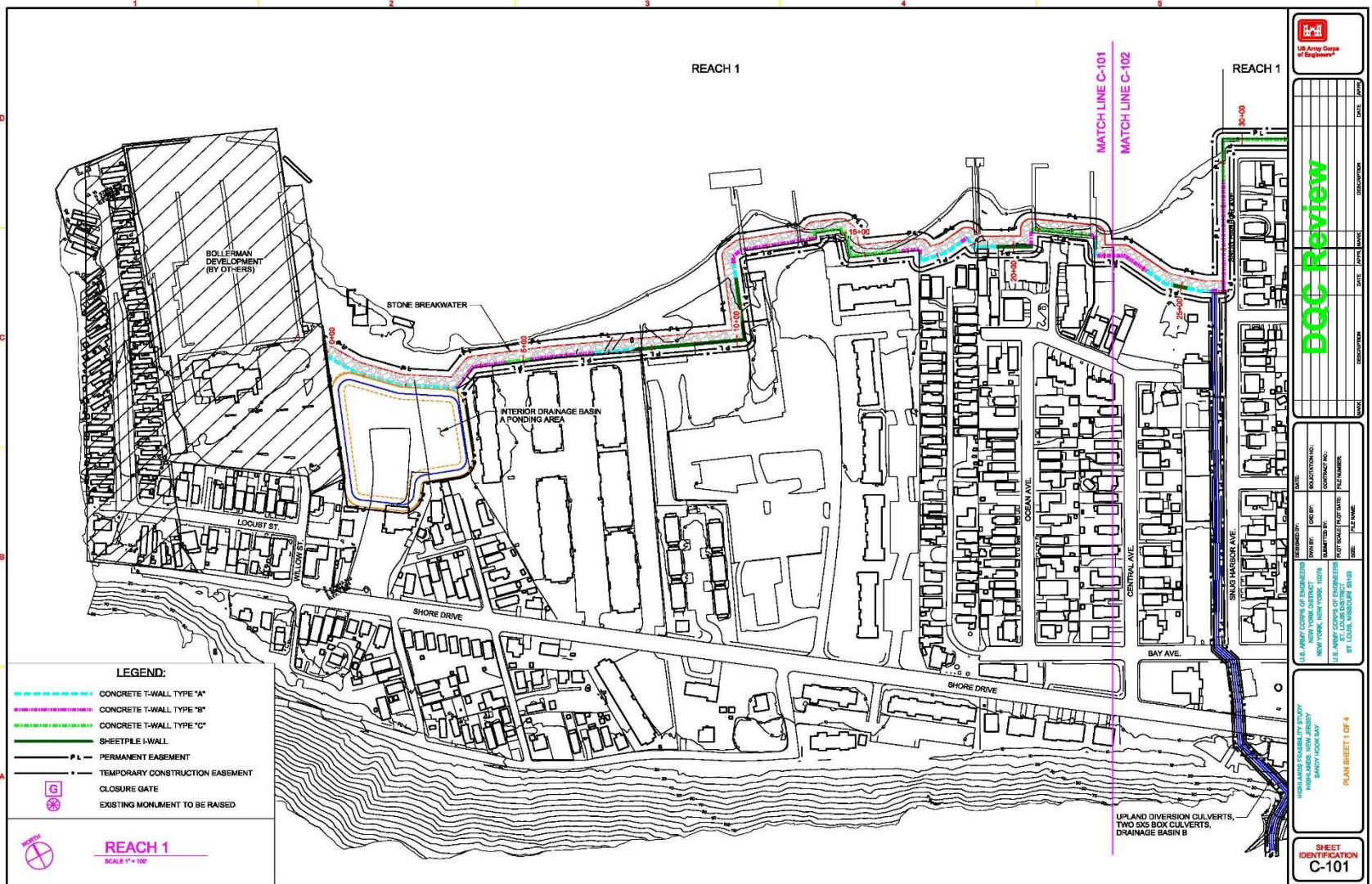
Execution and implementation of this PA evidences that the New York District has satisfied its Section 106 responsibilities for all individual Undertakings of the Project, and that the New York District has afforded the ACHP an opportunity to comment on the Undertaking and its effects on historic properties.

U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT

By:  Date: 30 Nov 16  
David A. Caldwell  
Colonel, U.S. Army  
Commander

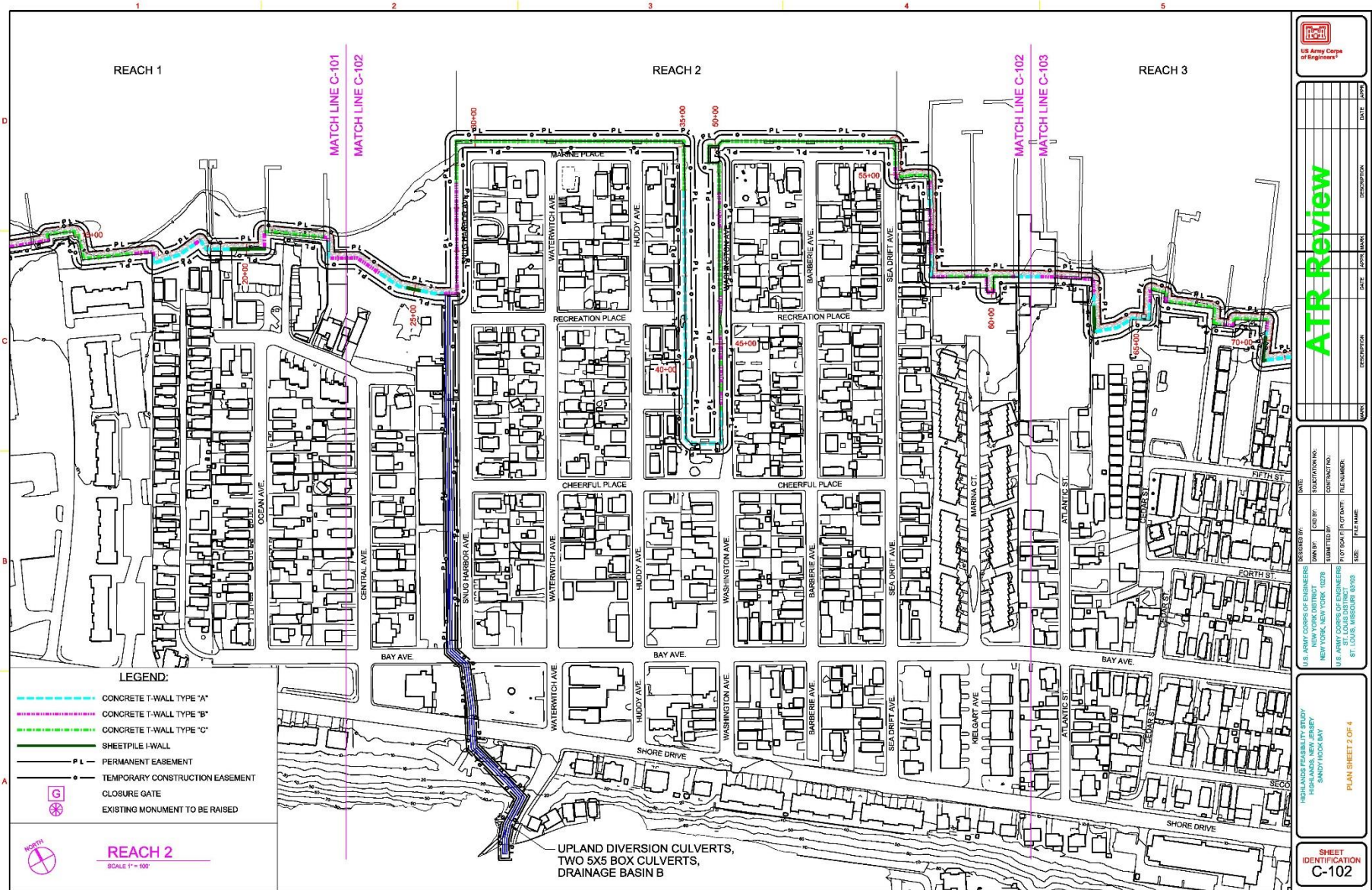
NEW JERSEY STATE HISTORIC PRESERVATION OFFICE

By:  Date: 1/10/2017  
Katherine J. Marcopul, Deputy State Historic Preservation Officer



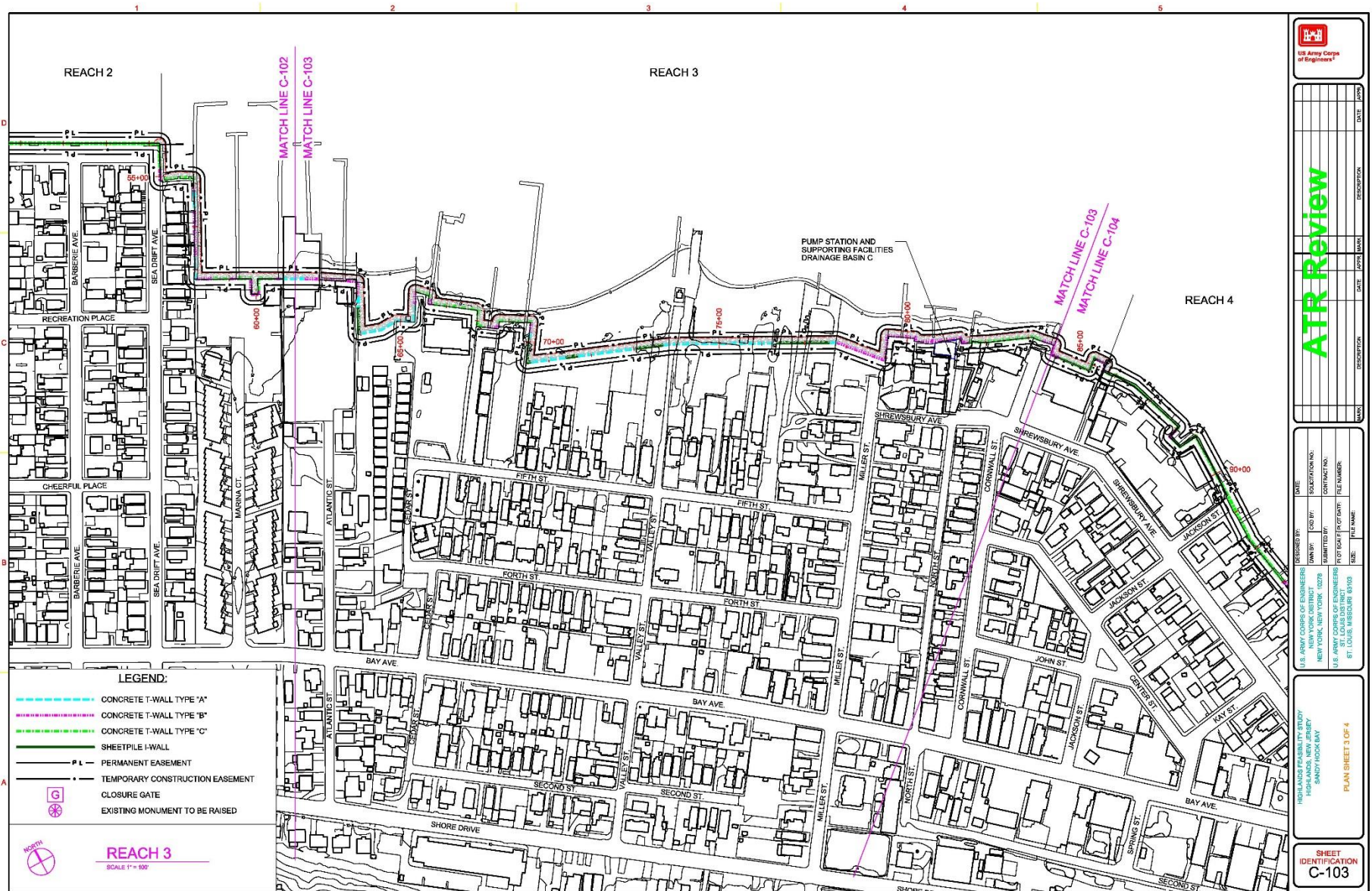
Appendix A(i). Recommended Plan (the Undertaking)





Appendix A(ii). Recommended Plan (the Undertaking)

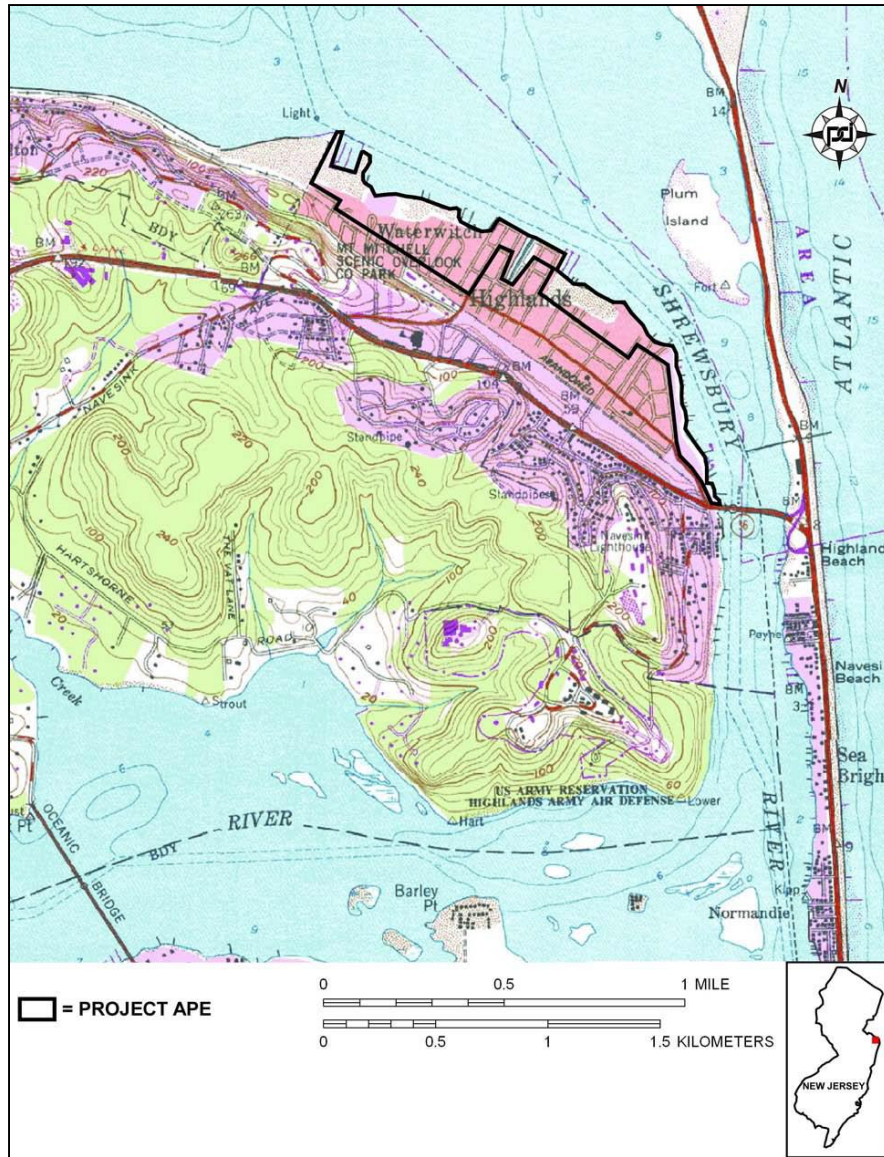




Appendix A(iii). Recommended Plan (the Undertaking)





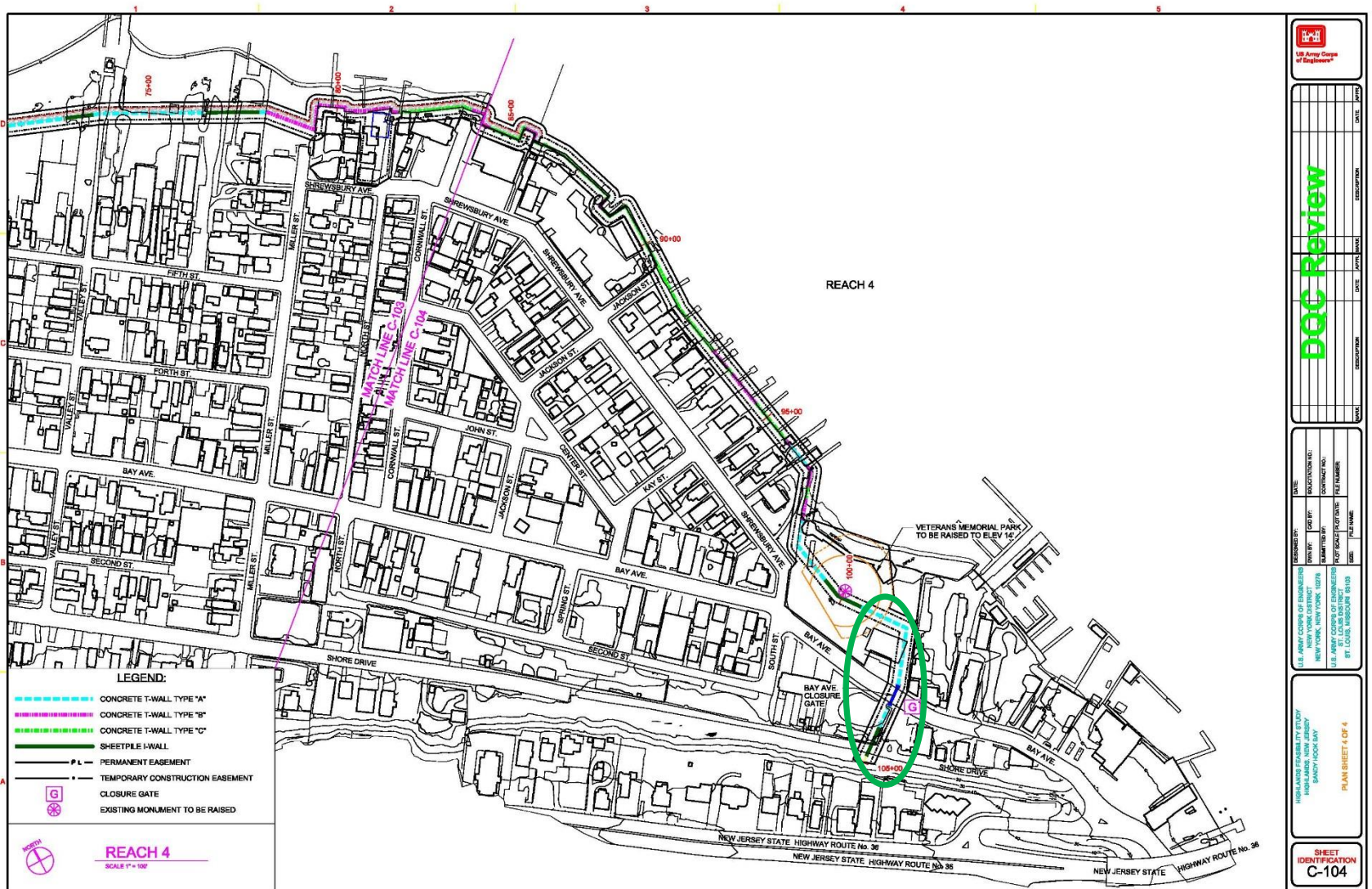


Appendix B. Investigated portion of Area of Potential Effect (APE). Historic architectural survey and archaeological assessment were conducted. Borough of Highlands, Monmouth County, NJ (Sandy Hook Quadrangle, USGS 1981 [1954]).

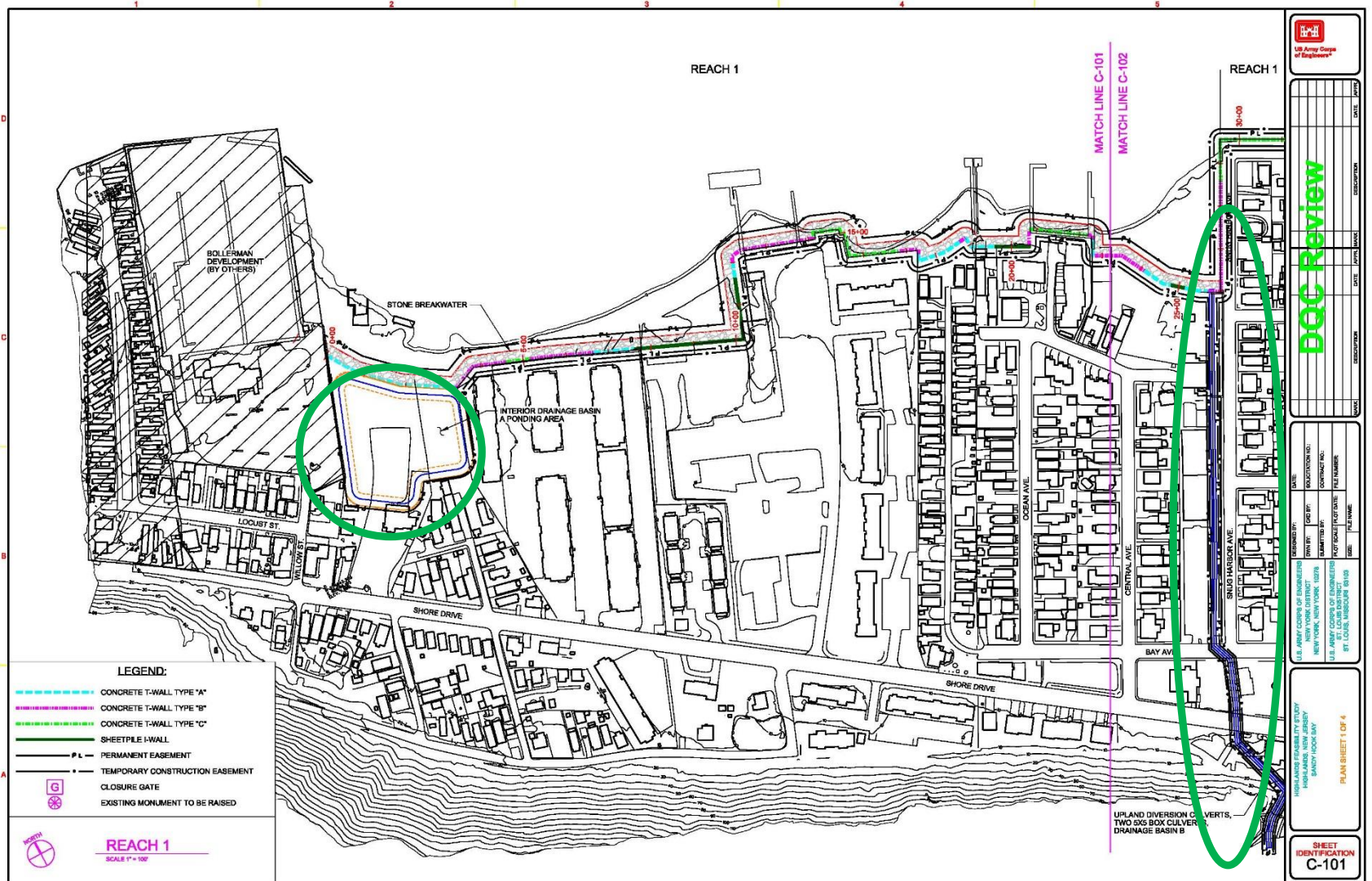
### Appendix C: Identified Properties within the APE and NRHP-eligibility Determinations

Name	Address	NRHP Eligibility
Honeysuckle Lodge	Between Atlantic and Cedar Street	Potentially eligible
58 Fifth Street Bungalows	58 Fifth Street	Potentially eligible
Shrewsbury Avenue District	26 – 34 Shrewsbury Avenue	Not eligible
Clam Shanty	Bay end of Miller Street	Not eligible
Bay Avenue Historic District		Potentially eligible
The following Bay Avenue properties may be found to be contributing elements to the potential Bay Avenue Historic District. Individual eligibility is given below for each structure.		
FLoBar Apartments (Creighton Hotel)	24 Bay Avenue	Potentially eligible
Sculthorpe's Auditorium (the "Purple Building")	78 Bay Avenue	Potentially eligible
Sasha's Boutique Outlet	1 Bay Avenue	Not eligible
Bahrs Real Estate	15 Bay Avenue	Not eligible
Mewes Bros. Dairy	19 Bay Avenue	Not eligible
Sears, Roebuck & Co. kit house	257 Bay Avenue	Not eligible
Dwelling	60 Bay Avenue	Potentially eligible
Bahr's Landing Restaurant and Marina	2 Bay Avenue	Eligible





Appendix D(i). Recommended Plan (the Undertaking). Change to previously surveyed alignment which may be subject to an archaeological survey is circled.



Appendix D(ii). Recommended Plan (the Undertaking) –Proposed Interior Drainage Features, a drainage basin and diversion culvert, which may be subject to an archaeological survey (circled).

# **Raritan Bay and Sandy Hook Bay, Highlands, New Jersey Coastal Storm Risk Management Project**

## **Feasibility Study**

**Final Feasibility Report and Environmental  
Assessment**

**February 2020**

**Appendix A6:  
Clean Air Act Conformity  
Record of Non-Applicability**

January 17, 2020

**RECORD OF NON-APPLICABILITY (RONA)**

Project Name: Borough of Highlands Coastal Storm Risk Management Feasibility Study

Reference: Data files 110119\_Equipment Hours.pdf and 10292019\_Schedule.pdf and email discussion 1 November 2019 and 7 November 2019

Project/Action Point of Contact: Matthew Voisine 917.790.8718

Begin Date: Q1 2022

End Date: Q2 2025

1. The project described above has been evaluated for Section 176 of the Clean Air Act. Project related emissions associated with the federal action were estimated to evaluate the applicability of General Conformity regulations (40CFR§93 Subpart B).
2. The requirements of this rule do not apply because the total direct and indirect emissions from this project are less than the 50 tons trigger levels for NO<sub>x</sub>, and VOCs, and less than 100 tons of PM<sub>2.5</sub>, CO, and SO<sub>2</sub> for each project year (40CFR§93.153(b)(1) & (2)) and for the project as a whole. The estimated total NO<sub>x</sub> emissions for the project are 27.7 tons. Emissions of VOC, PM<sub>2.5</sub>, CO, and SO<sub>2</sub> are also all well below the applicable trigger levels (see attached estimates).
3. The project is presumed to conform with the General Conformity requirements and is exempted from Subpart B under 40CFR§93.153(c)(1).

22 Jan 20

**WEPPLER.PETER** Digitally signed by  
**.M.1228647353** WEPPLER.PETER.M.1228647353  
Date: 2020.01.22 09:40:44 -05'00'

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Peter Wepler  
Chief, Environmental Analysis Branch

Encl





*US Army Corps of Engineers – New York District  
Borough of Highlands (NJ)  
Coastal Storm Risk Management Feasibility Study  
General Conformity Related Emission Estimates*

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Emissions have been estimated using project planning information developed by the New York District, consisting of anticipated dredging volumes, equipment types and estimates of the horsepower and operating hours of the diesel engines powering the equipment. In addition to this planning information, conservative factors have been used to represent the average level of engine load of operating engines (load factors) and the average emissions of typical engines used to power the equipment (emission factors). The basic emission estimating equation is the following:

$$E = \text{hrs} \times \text{LF} \times \text{EF}$$

Where:

**E** = Emissions per period of time such as a year or the entire project.

**hrs** = Number of operating hours in the period of time (e.g., hours per year, hours per project).

**LF** = Load factor, an estimate of the average percentage of full load an engine is run at in its usual operating mode.

**EF** = Emission factor, an estimate of the amount of a pollutant (such as NO<sub>x</sub>) that an engine emits while performing a defined amount of work.

In these estimates, the emission factors are in units of grams of pollutant per horsepower hour (g/hphr). For each piece of equipment, the number of horsepower hours (hphr) is calculated by multiplying the engine's horsepower by the load factor assigned to the type of equipment and the number of hours that piece of equipment is anticipated to work during the year or during the project. For example, a crane with a 250-horsepower engine would have a load factor of 0.43 (meaning on average the crane's engine operates at 43% of its maximum rated power output). If the crane were anticipated to operate 1,000 hours during the course of the project, the horsepower hours would be calculated by:

$$250 \text{ horsepower} \times 0.43 \times 1,000 \text{ hours} = 107,500 \text{ hphr}$$

The emissions from diesel engines vary with the age of an engine and, most importantly, with when it was built. Newer engines of a given size and function typically emit lower levels of most pollutants than older engines. The emission factors used in these calculations assume that the equipment pre-dates most emission control requirements (known as Tier 0 engines in most cases), to provide a reasonable "upper bound" to the emission estimates. If newer engines are actually used in the work, then emissions will be lower than estimated for the same amount of work. In the example of the crane engine, a NO<sub>x</sub> emission factor of 9.5 g/hphr would be used to estimate emissions from this crane on the project by the following equation:

$$\frac{107,500 \text{ hphr} \times 9.5 \text{ g NO}_x/\text{hphr}}{453.59 \text{ g/lb} \times 2,000 \text{ lbs/ton}} = 1.1 \text{ tons of NO}_x$$



*US Army Corps of Engineers – New York District  
Borough of Highlands (NJ)  
Coastal Storm Risk Management Feasibility Study  
General Conformity Related Emission Estimates*

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As noted above, information on the equipment types, horsepower, and hours of operation associated with the project have been obtained from the project's plans and represent current best estimates of the equipment and work that will be required. Load factors have been obtained from various sources depending on the type of equipment. Land-side nonroad equipment load factors are from the documentation for EPA's NONROAD emission estimating model, "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling, EPA420-P-04-005, April 2004."

Emission factors have also been sourced from a variety of documents and other sources depending on engine type and pollutant. Nonroad equipment NO<sub>x</sub> and other emission factors have been derived from EPA emission standards and documentation. On-road emission factors have been developed from the MOVES2014b model based on model year 1995 trucks. As noted above, the emission factors have been chosen to be moderately conservative so as not to underestimate project emissions. Equipment turnover by the time the project is undertaken will likely result in newer equipment performing the work than assumed in this analysis, meaning the emissions presented in this analysis are likely higher than will actually occur.

The following pages summarize the estimated emissions in sum for the project including the anticipated equipment and engine information developed by the New York District, the load factors and emission factors as discussed above, and the estimated emissions for the project.

USACE - New York District  
Borough of Highlands (NJ) Coastal Storm Risk Management Feasibility Study  
Detailed Equipment Emission Estimates  
6 November 2019  
FINAL

Project Emission Summary					
Pollutant	2022	2023	2024	2025	Project Total
	tons per year				
NO <sub>x</sub>	7.9	7.9	7.9	4.0	27.7
VOC	0.11	0.11	0.11	0.06	0.39
SO <sub>x</sub>	0.003	0.003	0.003	0.001	0.010
PM <sub>2.5</sub>	0.09	0.09	0.09	0.05	0.33
CO	0.7	0.7	0.7	0.4	2.5

Description, off-road equipment	Engine	Horsepower (approx.)	Load Factor	Hours	hphrs
Prime contractor					
Compactor, roller, vibratory	Other diesel engines	100	0.59	99	5,832
Crane, hydraulic, self-propelled, yard	Crane	120	0.43	7	360
Crane, hydraulic, self-propelled, rough terrain	Crane	175	0.43	47	3,518
Crane, hydraulic, truck mounted	Crane	275	0.43	3	300
Crane, hydraulic, truck mounted	Crane	175	0.43	36	2,694
Cranes, hydraulic, truck mtd, all terrain	Crane	275	0.43	10	1,213
Crane, mechanical, lattice boom, crawler, dragline/clamshell	Crane	225	0.43	1,220	118,025
Crane, mechanical, lattice boom, crawler, lifting	Crane	175	0.43	46	3,456
Generator set, skid mounted, 35 kw	Generator	60	0.43	93	2,403
Hydraulic excavator, crawler, 30,000 lb	Excavator	500	0.59	31	9,112
Loader/backhoe, wheel, 1.10 cy	Rubber tired loader	135	0.59	246	19,607
Pile hammer, driver/extractor, vibratory, 107 ton	Other diesel engines	100	0.59	93	5,495
Concrete vibrator, 2.5" (63.5 mm) dia	Generator	10	0.43	67	287
Subcontractor					
Tractor, crawler (dozer)	Dozer	90	0.59	587	31,159
Compactor, roller, vibratory	Other diesel engines	100	0.59	3,086	182,071
Cranes, mechanical, lattice boom, crawler, dragline/clamshell	Crane	265	0.43	2,836	323,129
Crane, mechanical, lattice boom, crawler, dragline/clamshell	Crane	225	0.43	4,668	451,651
Generator set, skid mounted, 35 kw	Generator	60	0.43	4,668	120,440
Grader, motor, articulated	Grader	215	0.59	10	1,267
Hydraulic excavator, crawler	Excavator	500	0.59	696	205,406
Loader/backhoe, wheel, 1.10 cy (0.84 m3) front end bucket	Rubber tired loader	135	0.59	978	77,886
Pile hammer, driver/extractor, vibratory	Other diesel engines	100	0.59	4,668	275,425
Tractor, crawler (dozer)	Dozer	250	0.59	52	7,713
Welder, engine driven, diesel	Generator	25	0.43	984	10,583
Concrete vibrator, 2.5" (63.5 mm) dia	Other diesel engines	10	0.59	1,984	11,703
Total off-road					1,870,735

Description, on-road vehicles*	Hours	Miles
On-road truck, 45,000 lb	365	12,788
On-road truck, 35,000 lbs	154	5,406
On-road truck, 75,000 lbs	114	4,004
On-road truck, 45,000 lb	14	481
On-road truck, 45,000 lb	214	7,480
On-road truck, 35,000 lb	10,103	353,602
On-road truck, 75,000 lb	427	14,957
Total on-road	11,392	398,717

\* On-road truck activity assuming travel at 35 mph average, conservative 1995 MY trucks

Emission factors, grams per hphr					Project emissions, tons				
NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>2.5</sub>	CO	NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>2.5</sub>	CO
9.5	0.19	0.0050	0.16	1.21	0.1	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	1.2	0.02	0.001	0.02	0.2
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.1	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.2	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.1	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.3	0.01	0.000	0.01	0.0
9.5	0.19	0.0050	0.16	1.21	1.9	0.04	0.001	0.03	0.2
9.5	0.19	0.0050	0.16	1.21	3.4	0.07	0.002	0.06	0.4
9.5	0.19	0.0050	0.16	1.21	4.7	0.09	0.002	0.08	0.6
9.5	0.19	0.0050	0.16	1.21	1.3	0.03	0.001	0.02	0.2
9.5	0.19	0.0050	0.16	1.21	0.0	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	2.2	0.04	0.001	0.04	0.3
9.5	0.19	0.0050	0.16	1.21	0.8	0.02	0.000	0.01	0.1
9.5	0.19	0.0050	0.16	1.21	2.9	0.06	0.002	0.05	0.4
9.5	0.19	0.0050	0.16	1.21	0.1	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.1	0.00	0.000	0.00	0.0
9.5	0.19	0.0050	0.16	1.21	0.1	0.00	0.000	0.00	0.0
					19.6	0.39	0.010	0.33	2.5

Emission factors, grams per mile					Project emissions, tons				
NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>2.5</sub>	CO	NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>2.5</sub>	CO
18.5	2.6	0.012	1.5	9.9	0.3	0.00	0.000	0.00	0.0
18.5	2.6	0.012	1.5	9.9	0.1	0.00	0.000	0.00	0.0
18.5	2.6	0.012	1.5	9.9	0.1	0.00	0.000	0.00	0.0
18.5	2.6	0.012	1.5	9.9	0.0	0.00	0.000	0.00	0.0
18.5	2.6	0.012	1.5	9.9	0.2	0.00	0.000	0.00	0.0
18.5	2.6	0.012	1.5	9.9	7.2	0.00	0.000	0.00	0.0
18.5	2.6	0.012	1.5	9.9	0.3	0.00	0.000	0.00	0.0
					8.1	0.00	0.000	0.00	0.0
Emission totals, off-road & on-road					27.7	0.39	0.010	0.33	2.5

# **Raritan Bay and Sandy Hook Bay, Highlands, New Jersey Coastal Storm Risk Management Project**

## **Feasibility Study**

**Final Feasibility Report and Environmental  
Assessment  
February 2020**

**Appendix A7:  
Fish and Wildlife Coordination Act Report**



**FINAL  
FISH AND WILDLIFE COORDINATION ACT  
SECTION 2(b) REPORT**

**RARITAN BAY AND SANDY HOOK BAY  
HIGHLANDS, NEW JERSEY  
COASTAL STORM RISK MANAGEMENT  
FEASIBILITY STUDY  
MONMOUTH COUNTY, NEW JERSEY**



Prepared by:

U.S. Fish and Wildlife Service  
Ecological Services, Region 5  
New Jersey Field Office  
Galloway, New Jersey 08205

January 2020



In Reply Refer To:  
20-CPA-0107

## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

New Jersey Field Office  
4 East Jimmie Leeds Road, Unit 4  
Galloway, New Jersey 08205  
Tel: 609/646 9310

<http://www.fws.gov/northeast/njfieldoffice>



Peter Weppeler, Chief  
Environmental Analysis Branch, New York District  
U.S. Army Corps of Engineers  
Jacob K. Javits Federal Building  
New York, New York 10278-0090  
Attention: Matthew Voisine

**JAN 23 2020**

Dear Mr. Weppeler:

On November 4, 2019, the U.S. Fish and Wildlife Service (Service) has received the U.S. Army Corps of Engineers, New York District, Planning Division's (Corps) specific responses to the recommendations provided by the Service in the February 2016 draft Section 2(b) report for the *Raritan Bay and Sandy Hook Bay, Highlands, New Jersey, Coastal Storm Risk Management Feasibility Study*. On December 6, 2019, the Service received a copy of the Corps Final Feasibility Study in draft format. The enclosed final report is provided pursuant to Section 2(b) of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*) and pursuant to a Fiscal Year 2016 interagency agreement.

The information presented in this final report is also provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) to ensure protection of federally listed (threatened and endangered) species. The following comments do not preclude separate review and comments by the Service on any forthcoming environmental documents pursuant to the National Environmental Policy Act of 1969 (83 Stat. 852; 42 U.S.C. 4321 *et seq.*).

Please note that the Service has not concurred with the Corps' determination of not likely to adversely affect for the federally listed (threatened) piping plover (*Charadrius melodus*). Further consultation pursuant to the ESA is required. The Service wishes to direct your attention to pages 5, 6, 12, and 13 of the attached final report. Noise to be generated by the proposed pile driving may adversely affect the nesting piping plovers on Sandy Hook beaches adjacent to the Study Area, requiring monitoring during the active nesting season or conducting pile driving activities (September 1 to March 14) outside the nesting season.

Any questions regarding this report should be directed to Carlo Popolizio at (609) 382-5271. The Service looks forward to continued cooperation with the Corps to ensure the successful implementation of the proposed project.

Sincerely,

A handwritten signature in blue ink, appearing to read "ES", is written over the typed name and title.

Eric Schradling  
Field Supervisor

Enclosure

cc: Kelly.Davis@dep.nj.gov  
Matthew.Voisine@usace.army.mil

NJFO:ES:cpopolizio:RP:ES:cap: 1/13/20

P:/Shared/Carlo/20-CPA-0107 Cover Highlands  
20-CPA-0107 Highlands Text

FINAL  
FISH AND WILDLIFE COORDINATION ACT  
SECTION 2(b) REPORT

**RARITAN BAY AND SANDY HOOK BAY  
HIGHLANDS, NEW JERSEY  
COASTAL STORM RISK MANAGEMENT  
FEASIBILITY STUDY  
MONMOUTH COUNTY, NEW JERSEY**

Prepared for:

U.S. Army Corps of Engineers  
New York District  
New York, New York 10278-0090

Prepared by:

U.S. Fish and Wildlife Service  
Ecological Services, Region 5  
New Jersey Field Office  
Galloway, New Jersey 08205

Preparers: Carlo Popolizio  
Assistant Project Leader: Ron Popowski  
Project Leader: Eric Schrading

January 2020

## **EXECUTIVE SUMMARY**

The United States Army Corps of Engineers, New York District, has evaluated flood risk management within the Raritan Bay and Sandy Hook Bay, Highlands, New Jersey, Coastal Storm Risk Management Feasibility Study. The Study is designed to protect low-lying areas within the Borough of Highlands, Monmouth County, New Jersey that have long been prone to flooding events associated with tidal inundation from hurricanes and other storm events, resulting in significant property damage, resident displacement, and transport disruption.

The Corps (2015a) first evaluated five alternative coastal storm risk management strategies that included non-structural (house elevations and relocations), hard structural (floodwalls and bulkheads), and soft structural (beachfill and dune) measures, as well as a hybrid measure that sought to minimize environmental impacts by modifying current shoreline features (elevation of existing bulkheads and reinforcement of dunes with sand-covered seawalls on the existing beaches). The hybrid plan was found to be the most effective and efficient among the examined alternatives. During optimization of the hybrid plan, the Corps further developed five variations of the hybrid plan, which include buoyant swing gates and removable floodwalls. Of the five variations, Alternative 5E, which prioritized coastal storm risk management over water access by including stationary components, was supported by the New Jersey Department of Environmental Protection, was found to have the highest net benefits, and was chosen as the Tentatively Selected Plan.

The Service provides recommendations for the protection of federally listed species and species proposed for listing pursuant to the Endangered Species Act. Moreover, the Service updates the status of species being evaluated for possible listing under the Act. The Service further provides lists of migratory birds of conservation concern and fish; recommends plantings of vegetation suitable to pollinator conservation; and highlights the need for control of invasive plant species.

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## I. INTRODUCTION

The United States Army Corps of Engineers, New York District (Corps), has evaluated flood risk management within the Raritan Bay and Sandy Hook Bay, Highlands, New Jersey, Coastal Storm Risk Management Feasibility Study (Study). The Study is designed to protect low-lying areas within the Borough of Highlands (Borough), Monmouth County, New Jersey that have long been prone to flooding events associated with tidal inundation from hurricanes and other storm events, resulting in significant property damage, resident displacement, and transport disruption (U.S. Army Corps of Engineers 2015a, 2019a).

Flood damage to structures adjacent to the Borough's shoreline occurs primarily due to Sandy Hook Bay tidal flooding, storm surge, and wave impacts associated with coastal tropical storms, hurricanes, and nor'easters. High winds from these storm events push water into Raritan Bay and cause an elevated rise in tide levels. The Borough experienced severe flooding during Hurricane Sandy in October 2012, a 190-year event that damaged or destroyed approximately 1,100 of the 1,500 structures. The SeaStreak Ferry, which serves many businesses throughout the northeast and provides mass transportation for commuters to New York City, was unable to operate for months after the ferry's terminal was destroyed by the storm.

Extensive urbanization within the Borough's coastline over the past century resulted in extensive destruction of dunes and beaches and increased the need to protect shorefront areas. In response to the severe damage sustained during Hurricane Sandy, the Borough committed to ensuring that the waterfront will be better constructed to withstand future storms and minimize future storm damage (Highlands Borough 2013). Despite efforts to construct effective shore protection structures, major losses from flooding and storm surges continue to plague the low-laying areas of the Borough (U.S. Army Corps of Engineers 2015a).

The Study was authorized by resolution of the Committee on Public Works and Transportation of the U.S. House of Representatives (House Document No. 464) adopted on August 1, 1990. The Hurricane Sandy Disaster Relief Appropriations Act of 2013 (Public Law 113-2) provided additional funding and authorization to complete the Feasibility Study. The non-Federal project partner, New Jersey Department of Environmental Protection (NJDEP), supports the National Economic Development (NED) Plan and is willing to enter into a Project Partnership Agreement (PPA) with the Corps for implementation (U.S. Army Corps of Engineers 2019a).

The U.S. Fish and Wildlife Service (Service) provides this Final Section 2(b) Report pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*) (FWCA) and Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA). In accordance with our Fiscal Year-2016 scope of work agreement entitled *Coastal Storm Risk Management Feasibility Study Raritan Bay and Sandy Hook Bay, Highlands, Monmouth County, New Jersey*, the Service also provided a Draft Section 2(b) Report to the Corps on February 10, 2016.

In this final report, the Service provides information regarding fish and wildlife resources, including federally and State-listed threatened and endangered species; identifies ecologically sensitive sites in the Study Area; identifies fish and wildlife species within or in the vicinity of



the Study Areas and discusses potential impacts on these species that may result from implementation of flood control measures; identifies opportunities for fish and wildlife habitat improvements; and updates the current state of knowledge concerning the proposed activities and their potential adverse impacts on fish and wildlife resources.

## II. DESCRIPTION OF THE PROPOSED ACTION

The Corps (2015a) first evaluated five alternative coastal storm risk management strategies that included non-structural (house elevations and relocations), hard structural (floodwalls and bulkheads), and soft structural (beachfill and dune) measures, as well as a hybrid measure that sought to minimize environmental impacts by modifying current shoreline features (elevation of existing bulkheads and reinforcement of dunes with sand-covered seawalls on the existing beaches). The Study Area and, within it, the Project Area are showed in Figure 1. The hybrid plan was found to be the most effective and efficient among the examined alternatives. During optimization of the hybrid plan, the Corps further developed five variations of the hybrid plan, which include buoyant swing gates and removable floodwalls. Of the five variations, Alternative 5E, which prioritized coastal storm risk management over water access by including stationary

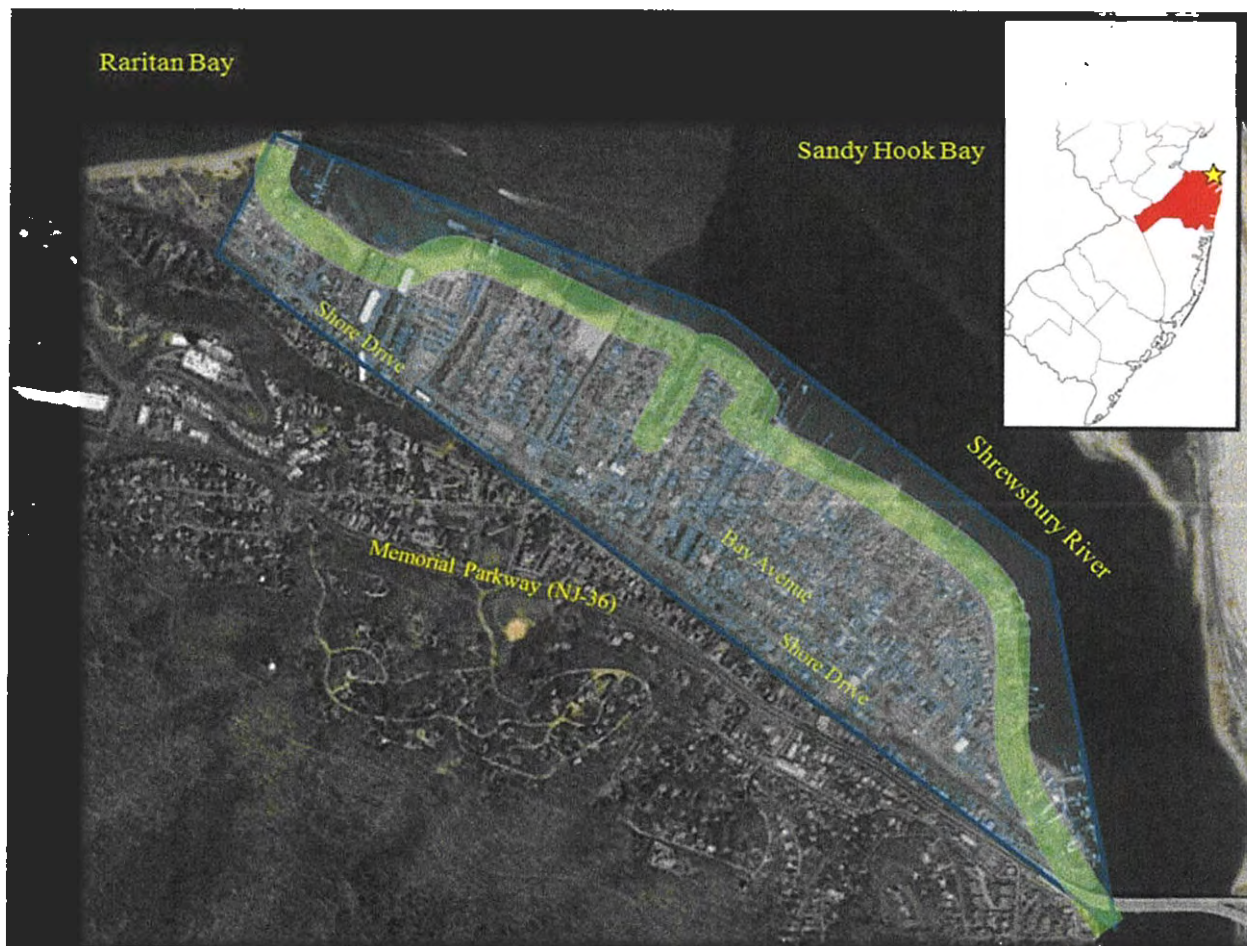


Figure 1. Highlands Borough. The Study Area is shown shaded in blue. The Project Area is shown highlighted in green (U.S Army Corps of Engineers 2015a, 2019a).

components, was supported by the NJDEP and was found to have the highest net benefits, making it the Tentatively Selected Plan (TSP).

Components of the TSP total 10,636 feet of shoreline and tie into high ground at each end of the Project Area (+10 feet NAVD 88 and +12.4 feet NAVD 88 respectively). For each segment of the TSP, project features will match the existing surroundings. Components of the TSP include 9,362 feet of T-type floodwall; 992 feet of I-type floodwall; 55-foot wide closure gate; pump station, with two operating pumps for a total capacity of 300 cubic feet/second; a 1.6-acre detention pond; and 1,600 feet of pressurized pipe (U.S. Army Corps of Engineers 2019a, Voisine pers. comm. 2019).

A private developer had proposed a new multi-use development along approximately 600 feet of shoreline at the westernmost end of the Project reach, incorporating a combination of raised ground surfaces and new bulkheads that would tie into the proposed Corps Project. The Corps confirmed that the multi-use development has been completed and raised to +14 NGVD (Voisine pers. comm. 2019).

Naturally occurring coastal dunes and beaches are dynamic systems that help protect lives and property from the effects of major natural coastal hazards such as hurricanes, storms, flooding and erosion. The presence of tidal wetlands can also attenuate storm surges (Wamsley *et al.* 2010). Levees and other man-made barriers that are constructed to reduce impacts from storm surge may also obstruct the drainage of flood waters from upland sources (U.S. Army Corps of Engineers 2013).

One of Borough's primary goals was to acquire parcels to increase open space (T&M Associates 2008); however, the built out nature of the Borough has been cited as a major impediment to developing parks and open space (New Jersey Future 2014). Increasing open space protects habitat for wildlife species and creates wildlife corridors between upland and coastal areas of the Borough while minimizing flood damage to private properties. The Borough's *Recreation and Open Space Plan* (T&M Associates 2008) identified several possible funding sources that could assist in implementing its open space acquisition plan; there may also be additional funding opportunities post-Hurricane Sandy, as the Federal Emergency Management Agency, Department of Housing and Urban Development and other agencies have provided funds for the purchase of flood prone properties for the purpose of converting them to open space or floodplain restoration.

Construction activities may disturb forested or scrub/shrub habitat. The New Jersey No Net Loss Reforestation Act (NNLRA) (N.J.S.A. 13:1L-14.1 *et seq.*) requires State entities to replant trees when trees are removed during development projects involving one-half acre or more. Because the NJDEP is the Corps non-Federal sponsor and will "operate, maintain, repair, replace, and rehabilitate the completed Project" (U.S. Army Corps of Engineers 2015a, 2019a), the Project should be reviewed by the NJDEP's Division of Parks and Forestry (NJDPF) to determine if the NNLRA is applicable.

### **III. STUDY AREA**

The Borough of Highlands is located in the northeastern section of Monmouth County and is bounded on the north by Sandy Hook Bay and on the east by the Shrewsbury River. The entire Borough is located in the Atlantic Coastal Plain physiographic province. Surficial geologic elements are primarily composed of beach and nearshore marine sand of Holocene origin. Areas immediately inland and up-gradient are sandy alluvium and colluvium deposited primarily in the late Pleistocene epoch. Soils are primarily well drained urban land complexes, with medium runoff and variable capacity to transmit water (Ksat). Impervious surface is between 45 and 65 percent (New Jersey Department of Environmental Protection 2016). Stormwater runoff within the Study Area moves directly toward Sandy Hook Bay and the Shrewsbury River via the Borough's sewer system supplemented by four pump stations.

A coastal bluff reaches a maximum elevation of approximately 260 feet NAVD88 less than one quarter mile inland. Much of this area is developed as single family residences. While the sandy and loamy sand soils in this area are classified as well drained with low runoff and a high Ksat, the high gradient combined with impervious surface creates potential for high runoff during rainfall events. The large amount of surface runoff from the cliffs onto the low lying areas during storm events has been documented as a problem, with the Borough's stormwater management system having difficulty handling the runoff (T&M Associates 2007). This area has experienced slumping and erosion that has resulted in property damage and public safety issues both above and below the bluff (New Jersey Future 2014). The Project Area consists of densely developed marine, commercial, and residential buildings at the western terminus, and extends eastward approximately 11,000 feet, bounded by the Sandy Hook peninsula. Wildlife resources are primarily limited to existing beach areas and a strip of woody vegetation ranging from 50 to 200 feet in width along the base of the coastal bluff, roughly paralleling Shore Drive along the southern edge of the Project Area.

### **IV. METHODS AND PROCEDURES**

This Final FWCA Section 2(b) report incorporates information compiled from searches of the Service's New Jersey Field Office library and office files, information provided by the Corps, personal communications, the New Jersey Landscape Project [New Jersey Division of Fish and Wildlife (NJDFW) 2017], and the internet.

### **V. EXISTING CONDITIONS**

#### **A. FEDERALLY LISTED SPECIES**

##### **1. Northern Long-eared Bat**

The Study Area is located within the summer breeding range of the northern long-eared bat (*Myotis septentrionalis*). The northern long-eared bat overwinters in caves and abandoned mines. After leaving hibernacula in April, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. The northern long-eared bat forages primarily on flying insects.

On April 2, 2015, the Service listed the northern long-eared bat as threatened under the ESA and established an interim 4(d) rule following drastic population declines caused by white-nose syndrome in the eastern and mid-western United States. The final 4(d) rule for the northern long-eared bat (effective January 13, 2016) prohibits purposeful take of northern long-eared bats throughout the species' range, except in instances of removal of northern long-eared bats from human structures, defense of human life (including public health monitoring), and removal of hazardous trees for protection of human life and property. In areas of the country impacted by white-nose syndrome (such as New Jersey), incidental take of northern long-eared bat is prohibited if it occurs within a hibernation site or results in tree removal activities within a quarter-mile of a hibernaculum. Incidental take is also prohibited from activities that remove or destroy any known occupied maternity roost tree, or any other trees within 150 feet of that maternity roost tree, during the pup-rearing season (June 1 through July 31).

There are no known northern long-eared bat hibernacula or maternity sites within or near Highlands, although this species is known to occur within or in the vicinity of the Study Area. Therefore, the Service concurs with the Corps' determination of no effect. The Service recommends the Corps utilize their Section 7(a)(1) authorities to further the purposes of the ESA by carrying out programs for the benefit of northern long-eared bat conservation.

## **2. Piping Plover**

The federally listed (threatened) piping plover (*Charadrius melodus*) occurs near the Study Area. Piping plovers are present on the New Jersey shore during the breeding season, generally between March 15 and August 31. There have not been any observed nesting in Highlands or on nearby Raritan Bay beaches; the Service does not anticipate that any nesting activity would take place in the Project Area. However, there are known occurrences of the piping plover at Sandy Hook and Sea Bright, within one quarter mile of the Project Area.

The nearby Sandy Hook Unit of the Gateway National Recreation Area annually supports the largest number of nesting piping plovers in New Jersey. In 2019, there were 41 nesting pairs at Sandy Hook, some within less than one quarter mile to a mile away from the Project Area. The Service's Best Management Practices for conservation of piping plover recommend avoiding noise and disturbance within one mile during the nesting season and to seasonally restrict work that might disturb piping plovers during the nesting season of March 15 through August 31. Loud noises and other disturbances associated with heavy construction equipment likely to be utilized during construction phases of the proposed Project activities have potential to adversely impact nearby nesting piping plovers.

Construction activities conducted at any time from September 1 through March 14 will not affect nesting piping plovers. If any construction activities involving pile-driving or demolition are planned to extend into the restricted season, further consultation with the Service's New Jersey Field Office (NJFO) is required. The use of noise muffling devices on pile drivers and demolition equipment between March 15 and August 15 should be investigated. A Service ESA Section 7 consultation for a demolition and construction project on the State Route 36 Bridge, located adjacent to the proposed Study Area, determined that an increased noise level at or below 6 decibels (dBA, the A-weighted sound pressure level) above ambient was not

likely to affect nesting piping plovers on the nearby Sandy Hook beaches (Amy S. Greene Environmental Consultants, Incorporated 2008, U.S. Fish and Wildlife Service 2008b).

The Corps (2019b) has determined that the Project as proposed is not likely to adversely affect the piping plover. The Service agrees that there are no records of piping plovers nesting within the Project Area and, besides the existing bulkhead, the limited beach areas surrounded by residential dwellings or commercial buildings do not provide habitat for piping plovers. However, there are breeding piping plovers nearby on Sandy Hook beaches and some pairs are known to nest about a quarter of a mile away from the Project Area. The Corps (2019b) stated that the use of vibratory pile driving may cause noise disturbance to the piping plovers. The Service notes that any noise pushing piping plovers off their selected breeding territory is an adverse effect. The Corps (2019b) stated that current design level does not detail the type of pile driving, materials, or duration; during the Preconstruction Engineering and Design phase of the Project, the Corps will coordinate with the Service in order to mitigate any noise impacts (dBA at nest cannot exceed 6 dBA higher than ambient level). The Corps (2019b) determined that outdoor construction noise level may range from 78 to 89 dBA approximately 50 feet from a construction site. The Service has tentatively assessed that noise generated by the proposed demolitions and pile driving may be as high as 48 dBA at piping plover nesting areas a quarter mile away. Therefore, the Service does not concur with the Corps determination of not likely to adversely affect piping plovers. Further consultation pursuant to Section 7 of the ESA is required. Alternatively, the Corps may elect to conduct demolition and pile driving activities outside the March 15-August 31 nesting season.

### **3. Seabeach Amaranth**

The federally listed (threatened) seabeach amaranth (*Amaranthus pumilus*) is known to occur on nearby beaches outside of the Project Area. Seabeach amaranth is an annual plant found on the dunes and upper reaches of Atlantic Ocean beaches. It appears to be intolerant of competition and does not occur on well-vegetated sites. It occasionally establishes small temporary populations in other habitats, including sound-side beaches, blowouts in foredunes, and sand and shell material placed as beach replenishment or dredge spoil. Seabeach amaranth stems are fleshy and pinkish-red or red, small (0.5 – 1 inch in diameter) rounded leaves are spinach-green, clustered towards the tips of the stems. Flowering begins as early as June and continues until the death of the plant in late fall. Seed production may begin in July and continues until the death of the plant.

The Corps (2019b) has agreed to survey for seabeach amaranth one week prior to construction on the beaches, if construction is scheduled to occur during the growing season (May 15 – Nov 30). If any seabeach amaranth plants are identified, the Corps will install string-and-post fencing to allow a 3-meter buffer around each plant or group of plants. Fencing will be marked with flagging and signs. No intrusions (including personnel, equipment, or materials) will be allowed within fenced areas. Surveys and fencing will be coordinated with the Service before and during the construction period. Please note that seabeach amaranth is readily identifiable only after July 1; surveys conducted between May 15 and the end of June may result in false negative findings. Ongoing consultation pursuant to Section 7 of the ESA is required; please provide survey results to the Service for concurrence.

#### **4. Red Knot**

The Study Area is located within the range of the federally listed (threatened) rufa red knot (*Calidris canutus rufa*). The rufa red knot is a long-range migrant shorebird that breeds in the tundra of the central Canadian Arctic and has a winter range that stretches from the southern tip of South America to the southeastern and Gulf coasts of the United States. A few red knots have been observed on beaches in the vicinity of the Study Area and those sightings have occurred primarily during the fall migration season from August through November. While it is possible that red knot may briefly stop on Highlands beaches during fall, given the extremely limited amount of suitable foraging habitat available within the Study Area, the Service concurs that proposed Project activities are insignificant or discountable, and not likely to adversely affect the red knot.

#### **5. Black Rail**

In the northeastern United States, the eastern black rail (*Laterallus jamaicensis jamaicensis*) can typically be found in both inland freshwater locations and coastal salt marsh with dense cover, but can also be found in upland areas of these wetlands or marshes. The Service was petitioned in April 2010 to list the eastern black rail as an endangered or threatened species under the ESA. In September 2011, the Service published a 90-day finding that the petitioned action may be warranted and initiated a review of the subspecies. A 12-month finding based on that review was delivered to the Federal Register proposing to list the eastern black rail as a threatened species.

The eastern black rail is State-listed as endangered in New Jersey. The black rail is also State-listed as either endangered or threatened in six other states within the subspecies' range: Delaware, Illinois, Indiana, Maryland, New York, and Virginia. The Service has determined that habitat within the Study Area is unsuitable to the black rail; no adverse impacts are expected from Project activities.

#### **6. Other Federally Listed Species**

Except for the aforementioned species, no other federally listed threatened or endangered flora or fauna under Service jurisdiction are known to occur in the vicinity of the property. If additional information on federally listed species becomes available, or if Project plans change, this determination may be reconsidered.

#### **7. Species under Review for Federal Listing**

The Service is evaluating the species listed in Appendix I to determine if listing under the ESA is warranted. These species do not currently receive any substantive or procedural protection under the ESA, and the Service has not yet determined if listing of any of these species is warranted. However, the Corps and other Federal action agencies should be aware that these species are being evaluated for possible listing and may wish to include them in field surveys and/or impact assessments, particularly for projects with long planning horizons and/or long operational lives.

## B. OTHER FISH AND WILDLIFE RESOURCES

### 1. Migratory Birds

Migratory birds are a Federal trust resource responsibility of the Service. Migratory birds are also protected pursuant to the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712). Please refer to the U.S. Fish and Wildlife Service (2013) for a complete list of migratory birds in the United States. The FWCA requires the Secretary of the Interior, through the Service, to identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. *Birds of Conservation Concern* (U.S. Fish and Wildlife Service 2008a) is the most recent effort to carry out this mandate. The overall goal of this report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities. A resource assessment by the Service's Information, Planning, and Conservation System (IPaC) identified a total of 24 Birds of Conservation Concern (BCC) to occur seasonally or year-round within the Project area (Appendix II) (USFWS 2016).

The Study Area lies within the Atlantic Coast Critical Bird Migration Area. Available habitat in this area provides potential nesting and foraging habitat for over 100 different migratory avian species (eBird 2016). Completion of the Project may require the removal of trees, shrubs, or other vegetation. Voisine (pers. comm. 2019) stated that vegetation removal should not exceed 0.25 acre. According to the NJDFW (2008), the general timing restriction to protect nesting migratory birds from tree or shrub/scrub removal is March 15 to July 31. Please be advised that the NJDFW and the Service informally agreed to modify the general timing restriction to April 1-August 31 to protect nests and unfledged chicks. This recommended seasonal restriction should be expanded to March 1 for nesting raptors.

### 2. Fish

Estuaries are critical and essential for maintaining healthy marine fisheries resources, as many fish species depend on this unique habitat during at least part of their life stages. The NMFS has designated habitats where federally managed fish species spawn, breed, feed, or grow to maturity as Essential Fish Habitat (EFH). Pursuant to Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265, as amended), the Corps made a determination that any adverse effect on EFH is not substantial, submitting documentation to NMFS for an abbreviated EFH consultation (Corps 2015b). A list of federally managed fish found to occur within or in the vicinity of the Project Area is provided in Appendix III. Other fish species that are important components of estuarine ecology and provide forage for area fish and wildlife include alewife (*Alosa pseudoharengus*), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic needlefish (*Strongylura marina*), Atlantic silversides (*Menidia menidia*), bay anchovy (*Anchoa mitchilli*), blueback herring (*Alosa aestivalis*), conger eel (*Conger oceanicus*), crevalle jack (*Caranx hippos*), fourspine stickleback (*Apeltes quadracus*), hickory shad (*Alosa mediocris*), inshore lizzardfish (*Synodus foetens*), mummichog (*Fundulus heteroclitus*), oyster toadfish (*Opsanus tau*), rainwater killifish (*Lucania parva*), sheepshead minnow (*Cyprinodon variegatus*), silver perch (*Bairdiella chrysura*), smooth dogfish (*Mustelus canis*), spot (*Leiostomus xanthurus*), spotted hake (*Urophycis regius*), striped killifish (*Fundulus majalis*),



striped mullet (*Mugil cephalus*), striped searobin (*Prionotus evolans*), tautog (*Tautoga onitis*), threespine stickleback (*Gasterosteus aculeatus*), tidewater silversides (*Menidia beryllina*), white perch (*Morone americana*), white mullet (*Mugil curema*), and weakfish (*Cynoscion regalis*) (Lynch *et al.* 1977; New Jersey Department of Environmental Protection 1979; U.S. Fish and Wildlife Service 1997).

### 3. Pollinators

Pollinators contribute substantially to the economy of the United States and are vital in maintaining healthy ecosystems; yet, severe losses of honey bees, native bees, birds, bats, and butterflies, have been observed over the past few decades. Honey bee pollination alone adds more than \$15 billion in value to agricultural crops each year in the United States (U.S. Department of Agriculture 2015). The number of honey bee colonies declined about 50 percent from 1940s levels; since the 2008 emergence of Colony Collapse Disorder (a phenomenon that occurs when the majority of worker bees in a colony disappear), annual losses of honey bee colonies averaged about 30.5 percent (U.S. Environmental Protection Agency 2014). Another pollinator species experiencing steep population decline is the monarch butterfly. The number of migrating monarch butterflies reached an all-time low in 2013-2014, reduced by 97 percent from the 1996-1997 high and by 90 percent from the 20-year average (Rendón-Salinas and Tavera-Alonso 2014).

With the potential Federal listing of the monarch butterfly the Service has a mandate to increase its habitat (milkweed and foraging food sources) by 100,000 acres, with a goal of 10,000 acres of new habitat in the northeast (which includes New Jersey). The Service is to work in collaboration with the Monarch Joint Venture (a partnership of Federal and State agencies, non-governmental organizations, and academic programs) to help achieve this goal. Areas along the landward slopes of dunes and areas where sand fill is to be placed behind bulkheads may provide opportunities to plant herbaceous vegetation that support pollinator species.

In an effort to ensure the sustainability of food production systems; avoid additional economic impact on the agricultural sector; and protect the health of the environment, President Obama established the Pollinator Health Task Force to expand Federal efforts to reverse pollinator losses and help restore populations to healthy levels. In a June 20, 2014 memorandum, the President called on Federal agencies, including the Service, the Corps, and the USDA to “develop... plans to enhance pollinator habitat, and subsequently implement, as appropriate, such plans on their managed lands and facilities, consistent with their missions and public safety;” and for the Corps to “incorporate conservation practices for pollinator habitat improvement on ... projects across the country” (Obama 2014).

### 4. Invasive Species

A substantial amount of soil could be displaced or compacted during construction, especially along bulkheads, access sites, and staging areas. Disturbed soils are often colonized by invasive plants species such as Japanese knotweed (*Polygonum cuspidatum*) and Japanese stilt grass (*Microstegium vimineum*). Once established, invasive plant species are difficult to control and may form monocultures that displace native plants. Service guidelines for habitat restoration



projects mandate post-project surveys be conducted for up to five years and, if at any time invasive species account for more than five percent of the vegetation present, a site specific invasive species control plan is to be developed and implemented. To help prevent invasive species from colonizing terrestrial areas, topsoil should be stockpiled and protected for post-construction replacement. Areas where soils have been compacted should be tilled with low ground-pressure equipment before topsoil replacement and seeding.

## VI. SERVICE COMMENTS AND RECOMMENDATIONS

The Service provided comments and recommendations in the draft FWCA Section 2(b) Report are provided with the aim of assisting the Corps to implement Project activities in a manner that conserves, protects, and enhances fish, wildlife, and plants and their habitats. The following summarizes the Service's general conclusions and recommendations followed by the Corps' responses provided on October 30, 2019 and highlighted in italics. Service replies to Corps responses are underlined.

1. Provided plans for earthen walkovers on reinforced dunes do not indicate any railings along the paved paths. The Service recommends that railings be installed to restrict access and prevent erosion of the dunes.

*Corps response: The design plans have hand railings on the walkovers.*

2. Contact the NJDPF to determine applicability to the NNLRA to the Project.

*Corps response: The NNLRA covers lands owned or maintained by the State. Private entities currently own the lands. For construction, the Borough of Highlands will purchase the land. The NNLRA is not applicable. The Service notes that NNLRA applies to State entities (i.e., the NJDEP as non-Federal sponsor).*

3. Consider incorporating impact of sea-level rise, and the effect of increased runoff rates and loss of flood plain (due to existing and proposed Raritan Bay and Raritan River watershed flood risk management projects), into projections of anticipated flood levels.

*Corps response: In section 3.2.1, the District predicted sea level to rise + 0.7 feet over the 50-year Study period. The District incorporated sea level rise in the design of the Project.*

4. Review Project objectives and components to ensure they are in accord with objectives and goals set forth by recent Corps and Hurricane Sandy Rebuilding Strategy Task Force (2013, 2014) (HSRS) initiatives promoting flood resiliency.

*Corps response: The Project goals for the Highlands are:*

- 1) *Manage the risk of damages from flooding caused by storm surge due to coastal storms that impact Highlands through 2071.*

- 2) *Develop a resilient and sustainable risk management solution for Highlands through 2071. The District is in accord with some of the HSRS goals; however, some of the goals are beyond the District's authority. The District's first goal aligns with the HSRS goals of: a) supporting small businesses and revitalizing local economies, b) building State and local capacity to plan for and implement long-term recovery and rebuilding, and c) addressing insurance challenges, understanding, and affordability.*

*The District's second goal aligns with the HSRS goals of: a) promoting resilient rebuilding through innovative ideas and a thorough understanding of current and future risk and b) ensuring a regionally coordinated, resilient approach to infrastructure investment. The HSRS goal of improving data sharing among Federal, State, and local officials, is part of every District project.*

*It is beyond the District's authority to align with the HSRS goal, addressing insurance challenges, understanding, and affordability.*

- 3) Coordinate with NJDEP to determine the amount of wetland habitat within the Project area. If wetland habitat is determined likely to be impacted during Project construction, prepare a mitigation plan in accordance with NJDEP guidelines. Coordinate all mitigation planning with the Service and NJDEP to maximize benefits to wetlands and fish and wildlife habitats.

*Corps response: The District is coordinating with NJDEP to determine the amount of wetland habitat impacted. The District will mitigate the wetland impacts through a wetland bank. The District will coordinate mitigation planning with the Service and NJDEP.*

- 4) Sub-surface marine sediments in and near the Project Area are likely to contain high levels of contaminants. To prevent recontamination of benthic sediments and the marine environment, excavated sediments should be removed and transported to an appropriate disposal facility. Any sediment used for bulkheads or dune construction should come from an approved borrow area.

*Corps response: The District searched Federal and State environmental databases for the presence of contaminated sediment. The District also conducted a series of subsurface sampling along the shoreline of Highlands. Both the database review and the sampling showed no concerns of contaminated sediment. However, if during construction any contaminated sediments are found, they will be removed and transported to an appropriate disposal facility.*

- 5) Schedule any pile-driving and other loud construction or demolition activities outside of the piping plover nesting season of March 15 through August 31. If any construction activities are to take place during the nesting season further consultation with the NJFO is required. If construction causes noise levels to exceed 6 dBA above ambient in the vicinity of any nesting area, a Contingency Plan to monitor piping plover behavior may need to be developed. An integral part of the Contingency Plan

is that the monitor is authorized to stop pile driving and demolition activities if it is determined that piping plover behavior is being affected by the increase in noise.

*Corps response: There are no reported piping plovers within the project alignment. Most of the project alignment is along existing bulkhead that does not provide beach habitat for piping plovers. The little beach areas that do exist, do not provide habitat for piping plovers. The beaches are very small, surrounded by homes or commercial buildings, and provide no foredune or washover areas. The Service concurs that there will be no impact to any plovers on-site due to lack of habitat. However, there are breeding piping plovers nearby on Sandy Hook beaches about a 1/4 of a mile away for the project alignment. The use of vibratory pile driving may provide noise disturbance to the piping plovers. If present, piping plovers may be exposed to in air noise from pile driving, but would be expected to avoid the area around active impact pile driving and extraction construction activities. The Service notes that Section 7 consultation pursuant to the ESA is only for piping plovers nesting at Sandy Hook, approximately 0.25 mile away. Pile driving activities would not occur at beaches that are designated as piping plover critical habitat. The Service notes that there is no designated critical habitat for Atlantic coast breeding piping plovers. Current design level does not detail the type of pile driving, materials, or duration. During the Preconstruction Engineering and Design (PED) phase of the Project, the District will coordinate with the Service in order to mitigate any noise impacts (dBA at nest cannot exceed 6 dBA higher than ambient level). The Service concurs as long as "mitigation" means "stop work if birds are disturbed by the noise." This will require monitoring dBA levels in the nesting area, and possibly bird responses, which needs to be closely coordinated with NJFO and NPS. Based on two earlier bridge studies (Bosakowski et al. undated and Amy S. Greene Environmental Consultants 2008), the Service may raise the limit in the nesting area to 10 dBA above ambient. Construction of the project would temporarily increase ambient noise levels in and around the construction sites. Based on data presented in Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (U.S. Environmental Protection Agency 1971), the main phases of outdoor construction typically generate noise levels that range from 78 dBA to 89 dBA, approximately 50 feet from a construction site. Noise levels are estimated to decrease by approximately 6 dBA with every doubling of distance from a noise source. It should be noted that the standard attenuation rate for point source noise (e.g., pile driving) is 6 dBA, and the standard attenuation rate for line source noise (e.g., traffic related noise) is 3 dBA. These standard attenuation rates do not take into account any reduction factors, such as soft site, vegetation, or atmospheric conditions. The Service has tentatively estimated noise levels from the proposed vibratory pile driving at 48 dBA a quarter mile (1,320) away. Based on the attenuation rate given, what does the Corps project the noise levels to be in the nearest nesting area? The threshold level for a significant noise impact is defined as a permanent increase in noise or prolonged periods of nighttime noise in noise-sensitive areas. The Service notes that the threshold for "significant noise impact" may be either a National Environmental Policy Act (83 Stat. 852:42 U.S.C. 4321 et seq.) or Corps definition, but it is not relevant to ESA. The consultation standard is whether the Project may adversely affect a federally listed species, as per the Consultation Handbook (U.S. Fish and Wildlife Service and National Marine Fisheries Service 1998). Construction noise may at times be between 78 and 89 dBA outside the houses adjacent to the*

construction sites, depending on the type of construction activity that is conducted; noise levels inside the houses would be approximately 30 to 40 dBA lower. Not relevant. The Service needs the projection to the nearest nesting area. Such measures may include but are not limited to construction windows and noise dampening measures.

*After a full evaluation of the piping plover life history, habitats in the project area, coordination with the Service, and proposed project activities, a "may affect, but not likely to adversely affect" determination was made by the Corps on populations of piping plover as a result of implementation of the proposed activities. The Service does not concur with this determination. Further consultation pursuant to Section 7 of the ESA is required by the Service.*

- 6) During the seabeach amaranth growing season of May 15 through November 30, survey Project Area beaches within one week before the start of Project construction to identify habitat and/or presence. Continue to survey suitable habitat weekly. Use fence post and string to provide a 3-meter exclusion buffer around any identified plant.

*Corps response: The District will conduct seabeach amaranth surveys prior to the start of Project construction. Surveys in suitable habitat will continue weekly. The District will establish exclusion fencing according to Service protocol, if any seabeach amaranth is identified within the project area.*

- 7) Utilize the Corps Section 7(a)(1) authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of northern long-eared bat.

*Corps response: Within the Highlands Project authority, the District is not authorized to carry out conservation measures for the benefit of northern long-eared bats.*

- 8) Avoid the removal of trees or shrubs during the migratory bird nesting season of April 1 through August 31. If minimal suitable habit is to be disturbed, a visual survey to determine presence or absence of active bird nests may be immediately precede the planned disturbance, which may proceed if absence of nesting migratory birds is confirmed.

*Corps response: The District will plan to remove trees and shrubs during the non-breeding season. However, it is anticipated that low amount of trees will need to be removed. If trees are to be removed during the bird-breeding season, surveys will be conducted for nesting migratory birds.*

- 9) Coordinate selection of staging areas and construction access sites with the Service to minimize impacts to wildlife habitat.

*Corps response: The District welcomes the Service's recommendations for staging and construction access. The District will identify staging areas and access sites that minimize impacts to wildlife habitat.*

- 10) Coordinate with the New Jersey Endangered and Nongame Species Program (ENSP) to verify the presence or absence of State-listed species in the Project Area. If present, institute measures (as recommended by ENSP) to avoid adverse impacts on these species.

*Corps response: The District has coordinated with NJDEP-ENSP. The ENSP identified silver-haired bat hibernacula near the project area. The ENSP recommended tree clearing in the winter months.*

- 11) Provide the Service with results of NMFS consultation concerning the Corps' determination of no adverse effect to EFH.

*Corps response: When completed, the District will provide the Service the results of the NMFS consultation pertaining to EFH.*

- 12) Develop construction plans that provide for the enhancement of pollinator habitat to the maximum extent possible.

*Corps response: The District will develop construction plans that provide for the enhancement of pollinator habitat to the maximum extent possible. Plans currently call for vegetation to be planted on the sand covered bulkheads. When and where appropriate pollinator habitat will be created.*

- 13) Include native pollinator seed mixes into revegetation plans. While regional (e.g. Mid-Atlantic) pollinator seed mixes are commercially available and contain several native herbaceous species, the Service recommends initiating coordination among the Corps, the Service, and the USDA Natural Resources Conservation Service's Cape May Plant Material Center to develop a list of pollinator plants most genetically suitable for coastal New Jersey.

*Corps response: The District will coordinate with USDA and the NJDEP to develop a list that contains pollinator plants that are suitable for the project area.*

- 14) Plan construction activities to prevent colonization by invasive species of areas where construction activities have disturbed the soil. Stockpile topsoil and utilize low ground pressure equipment for post-construction replacement.

*Corps response: The District will utilize best management practices to minimize colonization by invasive species in all aspects of the Project.*

The Service submitted the Draft FWCA Section 2(b) Report dated February 10, 2016 to the NJDFW for review and comments. The NJDFW response letter is included in Appendix IV.

The NJDFW recommends:

1. Including the Atlantic sturgeon (*Acipenser oxyrinchus*) in the list of federally listed marine species that may occur in or in the vicinity of the project area, requiring Section 7 consultation with NOAA - Protected Resources, Gloucester, Massachusetts (Attn. Mark Murray-Brown).
2. Providing the Corps' determination of no adverse effect on EFH to NOAA - Protected Resources.

Please keep this office informed of project meetings and schedules, environmental and wildlife investigations or studies, and formulation of any new Project alternatives. The Service strives to provide recommendations that promote long-term benefits for ecological resources and appreciates the opportunity to comment on the Corps' current design plans for implementation of Highland flood risk management activities. The Service also looks forward to providing further assistance to the Corps for minimizing impacts to area fish and wildlife resources and ensuring a successful completion of the proposed Project.

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## **2. Personal Communication**

Voisine, M. 2019. Biologist. U. S. Army Corps of Engineers, New York District.

## **APPENDIX I**

### **New Jersey Species Being Evaluated for Possible Listing under the Endangered Species Act**



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## New Jersey Species Being Evaluated for Possible Listing under the Endangered Species Act

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**Listing Actions:** For species that are the subject of a petition, the U.S. Fish and Wildlife Service (Service) will ultimately issue findings (*i.e.*, determinations if listing is warranted). A prioritized 7-year schedule for issuing findings, and for taking listing actions on other species being evaluated for possible listing, is detailed in the Service's Listing Workplan, available at:

<https://www.fws.gov/endangered/what-we-do/listing-workplan.html>.

For more information on the listing process, see the attached fact sheet and visit:

<http://www.fws.gov/endangered/what-we-do/listing-overview.html>.

**12-Month Findings:** The Service has received petitions to list the following species under the Endangered Species Act (ESA). For each of these species, the Service has issued a positive "90-day" finding, which is our determination that substantial information exists in the petition and our files indicating that listing may be warranted. The next step will be a status review for each species, followed by a "12-month" finding, according to the schedule given in the Listing Workplan.

Golden-winged warbler

(*Vermivora chrysoptera*)

Spotted turtle (*Clemmys guttata*)

Red-bellied turtle (Northern red bellied cooter)

(*Pseudemys rubriventris*)

Wood turtle (*Glyptemys insculpta*)

Tricolored bat (*Perimyotis subflavus*)

Green floater (*Lasmigona subviridis*)

Monarch butterfly subspecies (*Danaus plexippus plexippus*)

Regal fritillary (*Speyeria idalia*)

Clubtail dragonfly (Septima's clubtail) (*Gomphus septima*)

Morse's little plain brown sedge (caddisfly) (*Lepidostoma morsei*)

Boykin's lobelia (*Lobelia boykinii*)

Mountain doll's daisy (*Boltonia montana*)

**Discretionary Status Reviews:** In addition to the petitioned actions listed above, the Service is evaluating the following species to determine if listing under the ESA is warranted. These species are also included in the 7-year Workplan.

- Little brown bat (*Myotis lucifugus*)
- Salt marsh sparrow (*Ammodramus caudacutus*)
- Frosted elfin (*Callophrys irus*)
- Eastern beard grass [arogos] skipper (*Atrytone arogos arogos*)
- Appalachian grizzled skipper (*Pyrgus wyandot*)

**Protections and Planning:** None of the above-listed species currently receive any substantive or procedural protection under the ESA, and the Service has not yet determined if listing any of these species is warranted. However, Federal action agencies and other project proponents should be aware that these species are being evaluated for possible listing. Particularly for projects with long planning horizons and/or long operational lives, proponents may wish to include these species in field surveys and/or impact assessments.

### Species Proposed for Listing Whose Range Includes New Jersey

Under Section 7(a)(4) of the ESA, a Federal agency must confer with the Service on any agency action that is likely to jeopardize the continued existence of any species that the Service has proposed to be listed, or that is likely to result in the destruction or adverse modification of critical habitat proposed to be designated for such species.

- Black rail (*Laterallus jamaicensis*)

## **APPENDIX II**

### **Birds of Conservation Concern in the Highlands, New Jersey Area**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Season Found at Location</b>
American Oystercatcher	<i>Haematopus palliatus</i>	Year-round
American Bittern	<i>Botaurus lentiginosus</i>	Breeding
Black Skimmer	<i>Rynchops niger</i>	Breeding
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Breeding
Blue-winged Warbler	<i>Vermivora pinus</i>	Breeding
Fox Sparrow	<i>Passerella iliaca</i>	Wintering
Great Shearwater	<i>Puffinus gravis</i>	Migrating
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Breeding
Hudsonian Godwit	<i>Limosa haemastica</i>	Migrating
Least Bittern	<i>Ixobrychus exilis</i>	Breeding
Least Tern	<i>Sterna antillarum</i>	Breeding
Peregrine Falcon	<i>Falco peregrinus</i>	Wintering
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Year-round
Prairie Warbler	<i>Dendroica discolor</i>	Breeding
Purple Sandpiper	<i>Calidris maritima</i>	Wintering
Red Knot	<i>Calidris canutus rufa</i>	Wintering
Rusty Blackbird	<i>Euphagus carolinus</i>	Wintering
Saltmarsh Sparrow	<i>Ammodramus caudacutus</i>	Breeding
Seaside Sparrow	<i>Ammodramus maritimus</i>	Year-round
Short-eared Owl	<i>Asio flammeus</i>	Wintering
Snowy Egret	<i>Egretta thula</i>	Breeding
Upland Sandpiper	<i>Bartramia longicauda</i>	Breeding
Wood Thrush	<i>Hylocichla mustelina</i>	Breeding
Worm Eating Warbler	<i>Helmitheros vermivorum</i>	Breeding

### **APPENDIX III**

#### **Essential Fish Habitat in the Highlands Study Area**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Life Stage Found at Location</b>
Atlantic Butterfish	<i>Peprilus triacanthus</i>	Larvae, Adult, Juvenile
Atlantic Cod	<i>Gadus morhua</i>	Adult
Atlantic Herring	<i>Clupea harengus</i>	Adult, Juvenile, Larvae
Bluefin Tuna	<i>Thunnus thynnus</i>	Juvenile
Bluefish	<i>Pomatomus saltatrix</i>	Adult, Juvenile
Clearnose Skate	<i>Raja eglanteria</i>	Adult, Eggs
Little Skate	<i>Leucoraja erinacea</i>	Juvenile
Longfin Inshore Squid	<i>Doryteuthis pealeii</i>	Juvenile, Adult, Eggs
Monkfish	<i>Lophius spp</i>	Eggs, Larvae
Red Hake	<i>Urophycis chuss</i>	Larvae, Juvenile, Eggs
Sandbar Shark	<i>Charcharinus plumbeus</i>	Juvenile, Adult
Scup	<i>Stemotomus chrysops</i>	Adult, Juvenile Larvae Eggs
Silver Hake	<i>Merluccius bilinearis</i>	Larvae, Juvenile, Eggs, Adult
Skipjack Tuna	<i>Katsuwonus pelamis</i>	Adult
Smooth Dogfish	<i>Mustelus canis</i>	Juvenile, Adult
Summer Flounder	<i>Paralichthys dentatus</i>	Adult, Juvenile, Larvae
Tiger Shark	<i>Galeocerdo cuvier</i>	Juvenile
Window Pane Flounder	<i>Scophthalmus aquosus</i>	Eggs, Larvae, Juvenile, Adult
Winter Flounder	<i>Pseudopleuronectes americanus</i>	Larvae, Eggs, Juvenile
Winter Skate	<i>Leucoraja ocellata</i>	Juvenile
Witch Flounder	<i>Glyptocephalus cynoglossus</i>	Larvae
Yellowtail Flounder	<i>Pleuronectes ferruginea</i>	Larvae Eggs

## **APPENDIX IV**

### **Coordination with the New Jersey Division of Fish and Wildlife**





## State of New Jersey

PHIL MURPHY  
Governor

SHEILA OLIVER  
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NATURAL AND HISTORIC RESOURCES  
DIVISION OF FISH AND WILDLIFE  
P.O. BOX 420; MAIL CODE: 501-03  
TRENTON, NJ 08625-0420  
TEL: (609) 292-2965; FAX: (609) 984-1414  
VISIT OUR WEBSITE: [WWW.NJFISHANDWILDLIFE.COM](http://WWW.NJFISHANDWILDLIFE.COM)  
David Golden, Director

RAY BUKOWSKI  
Acting Commissioner

November 19, 2019

Mr. Eric Schradling, Field Supervisor  
United States Fish & Wildlife Service  
4 E. Jimmie Leeds Road, Unit 4  
Galloway, NJ 08205

Dear Mr. Schradling:

The NJ Division of Fish & Wildlife (DFW) would generally concur with the assessment and recommendations found in Draft Fish and Wildlife Coordination Act, Section 2b Report, addressing potential environmental impacts to fish and wildlife resources from the U.S. Army Corps of Engineers, New York District (Corps) *Raritan Bay and Sandy Hook Bay, Highlands, New Jersey, Coastal Storm Risk Management Feasibility Study*.

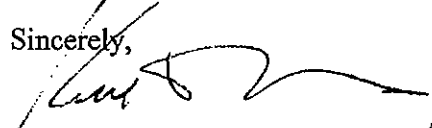
In the last paragraph of the section titled, FISH AND WILDLIFE RESOURCES, Federally Listed Species, NJDFW would propose that Atlantic Sturgeon should be included in the list of federally-listed marine species that may occur in the Project area. DFW would understand not including the whales at this location.

Also while DFW, would agree that NMFS should be contacted for coordination on impacts to EFH. DFW would suggest NOAA – Protected Resources (Mark Murray-Brown in Gloucester, Mass.) be contacted for coordination necessary to fulfill consultation requirements pursuant to Section 7(a)(2) of the ESA.

Under SERVICE COMMENTS AND RECOMMENDATIONS, #13 might read "Provide the Service with results of NMFS consultation concerning the Corp's determination of no adverse effect to EFH and NOAA – Protected Resources for determination of federally listed species under their purview.

If there are any questions concerning these comments, please feel free to contact Kelly Davis of my staff (908-236-2118). We hope this information is of service to you.

Sincerely,

  
David Golden, Director  
NJ Division of Fish & Wildlife

*For  
David  
Golden*



## State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Division of Land Use Regulation  
Mail Code 501-02A, P.O. Box 420, Trenton, NJ 08625-0420  
Fax # (609) 777-3656  
[www.state.nj.us/dep/landuse](http://www.state.nj.us/dep/landuse)

CHRIS CHRISTIE  
*Governor*

KIM GUADAGNO  
*Lt. Governor*

BOB MARTIN  
*Commissioner*

November 17, 2014

Ms. Ann Marie DiLorenzo  
Department of the Army  
New York District Corps of Engineers  
Jacob K. Javits Federal Building  
New York, NY 01278-0090

Dear Ms. DiLorenzo:

This letter is intended to explain the method that the State of New Jersey has been using to determine the appropriate amount of mitigation required when wetlands are filled, or otherwise permanently altered by any project. For your information, our methodology is accepted by, and also used by our Federal partners (the Army Corps of Engineers Regulatory Branch, U.S. Fish and Wildlife Service, EPA, and National Marine Fisheries Service) when we undertake combined State/Federal mitigation projects.

I re-examined the Habitat Evaluation Procedures (HEP) to determine how, or if, it could be applied for the purposes of determining appropriate wetland mitigation. Although the U.S. Fish and Wildlife Service mentions that it could be used for determining "compensation" it focuses on wildlife species habitat and the replacement of "habitat units." While wetlands provide wildlife habitat, they provide many other functions and values that are not addressed or incorporated into the HEP evaluation process which is why it is not appropriate for use in this context.

You stated that you are required to make a functional assessment to determine how much mitigation is required. This is consistent with both State and Federal rules. However, after extensive field evaluation of several different functional assessment models, the Department and its Federal partners have determined that these models rely heavily on personal experience, even when properly applied (by a group and not an individual). Because we could not find a functional assessment model that provided consistent results, New Jersey moved to a ratio approach for determine adequate mitigation quantity as a surrogate for functional assessment.

The ratio method assumes that the loss of a wetland always merits at least one to one replacement, regardless of whether it is of "high" or "low" functional value. Additional mitigation, beyond the one to one, is almost always required and the additional amount depends upon the wetland mitigation method proposed, as described below:

Creation is defined as taking an area that never was a wetland, and creating wetlands. The Department requires mitigation at a 1:1 ratio for creating coastal wetlands and at a 2:1 ratio for freshwater wetlands. The difference relates to hydrology which is easier to achieve in a tidal system then in a freshwater system. Also, where creation has been attempted for freshwater wetlands, it is usually less than 50% successful. Thus we require twice the amount of mitigation assuming that at a minimum the project will replace the lost wetland resource.

Restoration (also known as re-establishment) means taking an area that does not currently meet the definition of a wetland, but that once did, and restoring it to wetland conditions. The Department requires mitigation at a 1:1 ratio for restoring tidal wetlands and at a 2:1 ratio for freshwater wetlands. Again, the

difference is that hydrology is the key to restoring these areas, and as discussed above under "creation" it is often easier to successfully reintroduce to an area tidal hydrology than freshwater hydrology.

**Enhancement** (also known as rehabilitation) is defined as taking an area of existing wetlands that is not fully functional and of "low" ecological value, and enhancing it to make it more functional and to raise the overall ecological value. Because wetlands may vary greatly on the need for enhancement, the credit given depends upon the amount of ecological improvement that is proposed for a specific wetland system. If you begin with a mostly functional wetland and proposed minor improvements (for example, hand removal of invasive species with supplemental planting), the required ratio may be 10:1 (that is, you will be required to enhance 10 acres for each acre of wetland impact). If you begin with a mostly dysfunctional wetland, and must alter hydrology, enrich soils and do extensive replanting in order to make it functional, the required ratio is 3:1. We have also given credit ratios between those two for activities that fall somewhere in between. The reason for ratios in excess of 1:1 is that filling completely removes a wetland from the ecosystem while enhancement improves an existing wetland but does not contribute to "no net loss" of wetlands.

**Preservation** means taking a wetland of high ecological value that is under imminent threat and preserving it by placing a permanent conservation restriction on it. The Department requires that 27 acres of wetlands be preserved for every acre of wetland impacts (27:1). The reason for this high ratio is that filling completely removes a wetland from the system, while preserving an existing wetland, regardless of how high value, does not contribute to "no net loss" of wetlands.

I hope this helps you to better understand the method that we have been using to determine how much mitigation is sufficient to replace wetlands lost to legal permitting, and why the Department is not satisfied with the use of HEP or with a proposed mitigation ratio for the South River project of less than 2:1. The State's method represents several years of experience and evaluation of how to make mitigation requirements consistent, predictable, and ecologically relevant.

Please note that you may also consult with the local Army Corps of Engineers - Regulatory Branch for further guidance on acceptable means of calculating the amount of mitigation necessary in order to satisfy the Department's specific mitigation requirements. If you have any additional questions, feel free to contact me at [Susan.Lockwood@dep.nj.gov](mailto:Susan.Lockwood@dep.nj.gov) or at (609)984-0580.

Sincerely,



Susan D. Lockwood  
Environmental Specialist 4



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**26 FEDERAL PLAZA**  
**NEW YORK NEW YORK 10278-0090**

Environmental Analysis Branch

October 30, 2019

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

Dear Mr. Schrading:

The U.S. Army Corps of Engineers, New York District (District) received your February 10, 2016 draft Section 2(b) Fish and Wildlife Coordination Act Report (FWCAR) for the Raritan Bay and Sandy Hook Bay, Highlands, New Jersey, Coastal Storm Risk Management Integrated Feasibility Study and Environmental Assessment (FR/EA). The District paused the study after you submitted the FWCAR due to public support and has now resumed the study. The proposed plan has not changed since you submitted the Draft FWCAR.

The District and the non-federal sponsor, New Jersey Department of Environmental Protection (NJDEP) are proposing approximately 10,636 linear ft. of raised bulkheads, raised ground surfaces, floodwalls, and reinforced dunes, tying into high ground (+10 ft. NAVD 88 to +12.4 ft. NAVD88) at each end along the shoreline of Highlands, NJ.

The draft FWCAR provided a comprehensive description of pertinent environmental resources in the project area, which will be helpful in the preparation of the final Highlands FR/EA.

The District provides the following responses to your comments as provided in the draft FWCAR:

1. Provided plans for earthen walkovers on reinforced dunes do not indicate any railings along the paved paths. The Service recommends that railings be installed to restrict access and prevent erosion of the dunes.

District Response

The design plans have hand railings on the walkovers.

2. Contact the NJDPF to determine Project applicability to the>NNLRA.

District Response

The>NNLRA covers lands owned or maintained by the State. Private entities currently own the lands. For construction, the borough of Highlands will purchase the land. The>NNLRA is not applicable.

3. Consider incorporating impact of sea-level rise, and the effect of increased runoff rates and loss of flood plain ( due to existing and proposed Raritan Bay and Raritan River watershed flood risk management projects), into projections of anticipated flood levels.

District Response

In section 3.2.1, the District predicted sea level to rise + 0.7 feet over the 50–year study period. The District incorporated sea level rise in the design of the project.

4. Review Project objectives and components to ensure they are in accord with objectives and goals set forth by recent Corps and HSRS initiatives promoting flood resiliency.

District Response

The Project goals for the Highland are: 1) Manage the risk of damages from flooding caused by storm surge due to coastal storms that impact Highlands through 2071. 2) Develop a resilient and sustainable risk management solution for Highlands through 2071. The District is in accord with some of the HSRS goals however, some of the goals are beyond the District’s authority. The District’s first goal aligns with the HSRS goals of: 1) supporting small businesses and revitalizing local economies, 2) building state and local capacity to plan for and implement long-term recovery and rebuilding, and 3) addressing insurance challenges, understanding, and affordability.

The Districts second goal aligns with the HSRS goals of: 1) promoting resilient rebuilding through innovative ideas and a thorough understanding of current and future risk and 2) ensuring a regionally coordinated, resilient approach to infrastructure investment. The HSRS goal of, improving data sharing between federal, state, and local officials, is part of every District project.

It is beyond the District’s authority to align with the HSRS goal, addressing insurance challenges, understanding, and affordability.

5. Coordinate with NJDEP to determine the amount of wetland habitat within the Project area. If wetland habitat is determined likely to be impacted during Project construction, prepare a mitigation plan in accordance with NJDEP guidelines (Appendix C). Coordinate all mitigation planning with the Service and NJDEP to maximize benefits to wetlands and fish and wildlife habitats.

#### District Response

The District is coordinating with NJDEP to determine the amount of wetland habitat impacted. The District will mitigate the wetland impacts through a wetland bank. The District will coordinate mitigation planning with the Service and NJDEP.

6. Sub-surface marine sediments in and near the Project area are likely to contain high levels of contaminants. To prevent recontamination of benthic sediments and the marine environment, excavated sediments should be removed and transported to an appropriate disposal facility. Any sediment used for bulkheads or dune construction should come from an approved borrow area.

#### District Response

The District searched federal and state environmental databases for the presence of contaminated sediment. The District also conducted a series of subsurface sampling along the shoreline of Highlands. Both the database review and the sampling showed no concerns of contaminated sediment. However if during construction any contaminated sediments are found they will be removed and transported to an appropriate disposal facility.

7. Schedule any pile-driving and other loud construction or demolition activities outside of the piping plover nesting season of March 15 through August 31. If any construction activities are to take place during the nesting season further consultation with the NJFO is required. If construction causes noise levels to exceed 6 dBA above ambient in the vicinity of any nesting area, a Contingency Plan to monitor piping plover behavior may need to be developed. An integral part of the Contingency Plan is that the monitor is authorized to stop pile driving and demolition activities if it is determined that piping plover behavior is being affected by the increase in noise.

#### District Response

There are no reported piping plovers within the project alignment. Most of the project alignment is along existing bulkhead that does not provide beach habitat for piping plovers. The little beach areas that do exist, do not provide habitat for piping plovers. The beaches are very small, surrounded by homes or commercial buildings, and provide no foredune or washover areas. However, there are breeding piping plovers nearby on Sandy Hook beaches about a ¼ of a mile away from the project alignment. The use of vibratory pile driving may provide noise disturbance to the piping plovers. If present, piping plovers may be exposed to in air noise from pile driving, but would be expected to avoid the area around active impact pile driving and extraction construction activities. Pile driving activities would not occur at beaches that are designated as piping plover critical habitat. Current design level does not detail the type of pile driving, materials, or duration. During the Preconstruction Engineering and Design (PED) phase of the project, the District will coordinate with the Service in order to mitigate any noise impacts (dBA at nest cannot exceed 6 dBA higher than ambient

level). Construction of the project would temporarily increase ambient noise levels in and around the construction sites. Based on data presented in Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (EPA, 1971<sup>1</sup>), the main phases of outdoor construction typically generate noise levels that range from 78 dBA to 89 dBA, approximately 50 feet from a construction site. Noise levels are estimated to decrease by approximately 6 dBA with every doubling of distance from a noise source. (It should be noted that the standard attenuation rate for point source noise (e.g. pile driving) is 6 dBA, and the standard attenuation rate for line source noise (e.g. traffic related noise) is 3 dBA. These standard attenuation rates do not take into account any reduction factors, such as soft site, vegetation, or atmospheric conditions. The threshold level for a significant noise impact is defined as a permanent increase in noise or prolonged periods of nighttime noise in noise-sensitive areas). Construction noise may at times be between 78 and 89 dBA outside the houses adjacent to the construction sites, depending on the type of construction activity that is conducted; noise levels inside the houses would be approximately 30 to 40 dBA lower. Such measures may include but are not limited to construction windows and noise dampening measures.

8. During the seabeach amaranth growing season of May 15 through November 30, survey Project area beaches within one week before the start of Project construction to identify habitat and/or presence. Continue to survey suitable habitat weekly. Use fence post and string to provide a 3-meter exclusion buffer around any identified plant.

#### District Response

The District will conduct seabeach amaranth surveys prior to the start of Project construction. Surveys in suitable habitat will continue weekly. The District will establish exclusion fencing according to Service protocol if any seabeach amaranth is identified within the Project area.

9. Utilize the Corp's Section 7(a)(1) authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of northern long-eared bat.

#### District Response

Within the Highlands Project authority, the District is not authorized to carry out conservation measures for the benefit of northern long-eared bats.

10. Avoid the removal of trees or shrubs during the migratory bird-nesting season of March 15 through July 31. If minimal suitable habit is to be disturbed, a visual survey to determine presence or absence of active bird nests may be immediately precede the planned disturbance, which may proceed if absence of nesting migratory birds is confirmed.

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<sup>1</sup> U.S. Environmental Protection Agency. 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances

#### District Response

The District will plan to remove trees and shrubs during the non-breeding season however, it is anticipated that low amount of trees will need to be removed. If trees are to be removed during the bird-breeding season, surveys will be conducted for nesting migratory birds.

11. Coordinate selection of staging areas and construction access sites with the Service to minimize impacts to wildlife habitat.

#### District Response

The District welcomes the Service's recommendations for staging and construction access. The District will identify staging areas and access sites that minimize impacts to wildlife habitat.

12. Coordinate with the ENSP to verify the presence or absence of State-listed species in the project area. If present, institute measures (as recommended by ENSP) to avoid adverse impacts on these species.

#### District Response

The District has coordinated with NJDEP ENSP. The ENSP identified silver-haired bat hibernacula near the project area. The ENSP recommended tree clearing in the winter months.

13. Provide the Service with results of NMFS consultation concerning the Corp's determination of no adverse effect to EFH.

#### District Response

When completed, the District will provide the Service the results of the NMFS consultation pertaining to EFH.

14. To the maximum extent possible, develop construction plans that provide for the enhancement of pollinator habitat.

#### District Response

The District will develop construction plans that provide for the enhancement of pollinator habitat to the maximum extent possible. Plans currently call for vegetation to be planted on the sand covered bulkheads. When and where appropriate pollinator habitat will be created.

15. Include native pollinator seed mixes into revegetation plans. While regional (e.g. Mid-Atlantic) pollinator seed mixes are commercially available and contain several native herbaceous species, the Service recommends initiating coordination among the Corps, the Service, and the USDA Natural Resources Conservation Service's Cape



May Plant Material Center to develop a list of pollinator plants most genetically suitable for coastal New Jersey.

District Response

The District will coordinate with USDA and the NJDEP to develop a list that contains pollinator plants that are suitable for the Project area.

16. Plan construction activities to prevent colonization by invasive species of areas where construction activities have disturbed the soil. Stockpile topsoil and utilize low ground pressure equipment for post-construction replacement.

District Response

The District will utilize best management practices to minimize colonization by invasive species in all aspects of the Project.

If you have any questions or comments please contact Mr. Matthew Voisine, Biologist at (917)-790-8718. The District looks forward to continued coordination with you on this project.

Sincerely,

WEPPLER.PETER  
.M.1228647353  
Peter Wepler  
Chief, Environmental Analysis Branch

Digitally signed by  
WEPPLER.PETER.M.1228647353  
Date: 2019.10.30 14:54:30  
-04'00'

# **Raritan Bay and Sandy Hook Bay, Highlands, New Jersey Coastal Storm Risk Management Project**

## **Feasibility Study**

**Final Feasibility Report and Environmental  
Assessment  
February 2020**

**Appendix A8:  
Endangered Species Act: Section 7 Consultation**

-----Original Message-----

From: Walsh, Wendy [mailto:wendy\_walsh@fws.gov]

Sent: Tuesday, February 4, 2020 17:18

To: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>; Popolizio, Carlo <carlo\_popolizio@fws.gov>; Popowski, Ron <ron\_popowski@fws.gov>

Cc: Hecht, Anne <anne\_hecht@fws.gov>; Christina Davis <Christina.Davis@dep.nj.gov>

Subject: Re: [Non-DoD Source] Re: [EXTERNAL] Highlands Sec. 7 coordination

Hi Matthew-

>>In the FWCAR is states that 48 dBA at a piping plover nest is too high. What is the ambient dBA at a piping plover nest that is used to determine that?

To avoid adverse effects, NJFO would recommend keeping project noise below the level that elicits (or is likely to elicit) a plover response. That specific level likely varies based on factors such as the sensitivity of each nesting pair, the type of noise, and environmental baseline (i.e., the types and levels of ambient noise, which surely also vary from beach to beach and even from day to day). To really pin it down might take a noise monitoring effort, such as was done on two previous bridge replacement projects. However, those projects did not find a plover response, so I might hope we could extrapolate from those results to avoid having to do the noise monitoring. (The noise monitoring is not only an additional project cost for the Corps, but also requires very close coordination with ENSP and/or NPS, which means extra work for them). Sounds like you might already have them, but I'm attaching the two past bridge reports.

Apologies, but I've only been involved in this off and on and forget the details -- the noise in question is pile driving right? If so, the bridge studies would definitely be applicable. Since those two studies saw no plover response, we would be very comfortable concluding that expected project noise at the nearest nesting area below the target levels in those two bridge studies is not likely to adversely affect.

However, if noise from this project will exceed the targets from the Longport and Route 36 bridges, then we might have to look elsewhere to see if we can figure out how loud is too loud -- hopefully without repeating the noise monitoring. I might have some papers on low-flying aircraft, but that is such a different kind of noise I'm not sure how applicable it would be. I'm copying Anne Hecht and Kashi Davis in case they have any other references or feedback.

Hope this helps.

Wendy

~~~~~

Wendy Walsh, Endangered Species Biologist U.S. Fish and Wildlife Service, New Jersey Field Office  
4 E. Jimmie Leeds Road, Suite 4

Galloway, New Jersey 08205  
phone: (609) 382-5274 fax: (609) 646-0352

wendy\_walsh@fws.gov <mailto:wendy\_walsh@fws.gov> NJFO\_ProjectReview@fws.gov  
<mailto:NJFO\_ProjectReview@fws.gov> for new project reviews

---

From: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>  
Sent: Wednesday, January 29, 2020 10:46 AM  
To: Popolizio, Carlo <carlo\_popolizio@fws.gov>; Popowski, Ron <ron\_popowski@fws.gov>; Walsh, Wendy <wendy\_walsh@fws.gov>  
Cc: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>  
Subject: RE: [Non-DoD Source] Re: [EXTERNAL] Highlands Sec. 7 coordination

No problem. Thanks Carlo.

Matthew Voisine  
Biologist  
U. S. Army Corps of Engineers, New York District  
26 Federal Plaza, Room 17-421  
NY, NY 10278  
917.790.8718  
matthew.voisine@usace.army.mil

-----Original Message-----

From: Popolizio, Carlo [mailto:carlo\_popolizio@fws.gov]  
Sent: Wednesday, January 29, 2020 10:45  
To: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>; Popowski, Ron <ron\_popowski@fws.gov>; Walsh, Wendy <wendy\_walsh@fws.gov>  
Subject: Re: [Non-DoD Source] Re: [EXTERNAL] Highlands Sec. 7 coordination

Matthew,

that information was given to me by Wendy Walsh of this office. Wendy is at a conference out of state. We will work at getting you answers to your questions upon her return. Sorry for the inconvenience. Thanks, Carlo

---

From: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>  
Sent: Wednesday, January 29, 2020 10:12 AM  
To: Popolizio, Carlo <carlo\_popolizio@fws.gov>; Popowski, Ron <ron\_popowski@fws.gov>  
Cc: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>  
Subject: RE: [Non-DoD Source] Re: [EXTERNAL] Highlands Sec. 7 coordination

Carlo,  
p

Thanks for the clarification. I have another question. In the FWCAR it states that 48 dBA at a piping plover nest is too high. What is the ambient dBA at a piping plover nest that is used to determine that? I cannot find any data in the study that you cite that discusses what the ambient dBA is at a piping plover nest. I found data for beach sound levels ranging from 45dBA furthest away from surf zone to 70 dBA at the surf zone.

Thanks

Matthew Voisine  
Biologist  
U. S. Army Corps of Engineers, New York District  
26 Federal Plaza, Room 17-421  
NY, NY 10278  
917.790.8718  
matthew.voisine@usace.army.mil

-----Original Message-----

From: Popolizio, Carlo [mailto:carlo\_popolizio@fws.gov]  
Sent: Monday, January 27, 2020 13:58  
To: Voisine, Matthew F CIV USARMY CENAN (USA) <Matthew.Voisine@usace.army.mil>; Popowski, Ron <ron\_popowski@fws.gov>  
Subject: [Non-DoD Source] Re: [EXTERNAL] Highlands Sec. 7 coordination

Matthew,

what we requested was the Corps evaluation of potential noise from construction at the plover nests. It seems from our calculation that pile placement activity will generate more noise than 10 dBA at the nest sites. However, we are asking the Corps to provide this calculation in case we misunderstood the formula you had provided. Please let us know what you came up to. If the noise is going to exceed the 10 dBA at the nest, what is the point of preparing for pile construction when the activity will have to stop?

Thanks, Carlo

On Thu, Jan 23, 2020 at 1:51 PM Voisine, Matthew F CIV USARMY CENAN (USA)  
<Matthew.Voisine@usace.army.mil <mailto:Matthew.Voisine@usace.army.mil> > wrote:

Carlo

Thanks for the FWCAR. I am looking for some clarification regarding the Service's piping plover determination. If the District agrees to monitoring noise levels at piping plover nest areas and will stop construction when levels exceed 10 dBA, will this allow the District to not go into formal consultation? The District will put into the construction specifications that noise levels near plover nests will need to be monitored during construction for noise levels.

Thank you

Matthew Voisine  
Biologist  
U. S. Army Corps of Engineers, New York District  
26 Federal Plaza, Room 17-421  
NY, NY 10278  
917.790.8718  
matthew.voisine@usace.army.mil <mailto:matthew.voisine@usace.army.mil>



REPLY TO  
ATTENTION OF  
Environmental Analysis Branch

**DEPARTMENT OF THE ARMY**  
U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT  
JACOB K. JAVITS FEDERAL BUILDING  
26 FEDERAL PLAZA  
NEW YORK NEW YORK 10278-0090

October 30, 2019

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

Dear Mr. Schrading:

The U.S. Army Corps of Engineers, New York District (District) is conducting a Feasibility Report for the Raritan Bay and Sandy Hook Bay Highlands, New Jersey Coastal Storm Risk Management. The District is transmitting the Endangered Species Act (ESA) determination and assessment for the federally threatened northern long-eared bat (*Myotis septentrionalis*), federally threatened piping plover (*Charadrius melodus*), federally threatened red knot (*Calidris canutus rufa*), and the federally threatened seabeach amaranth (*Amaranthus pumilus*) to fulfill Section 7 consultation under the ESA of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*).

The Service identified the northern long-eared bat, piping plover, red knot, and seabeach amaranth as potentially occurring at or near the project area on February 10, 2016, in the Draft Fish and Wildlife Coordination Act Section 2(b) Report.

Attached is a project description consisting of raised bulkheads, raised ground surfaces, floodwalls, and reinforced dunes. Also attached is the District's ESA determination and assessment for northern long-eared bat, piping plover, red knot, and seabeach amaranth to fulfill Section 7 consultation under the ESA of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*).

The District has determined there is "No effect" on the federally threatened northern long-eared bat, a "May affect, but is not likely to adversely affect" on the federally threatened piping plover, a "May affect, but is not likely to adversely affect" on the federally threatened red knot, and a "May affect, but is not likely to adversely affect" on the federally threatened seabeach amaranth.

If you have any questions or require additional information, please contact  
Matthew Voisine, Project Biologist at 917.790.8718 or  
[matthew.voisine@usace.army.mil](mailto:matthew.voisine@usace.army.mil).

Sincerely,

WEPLER.PET

ER.M.1228647

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Peter Wepler

Chief, Environmental Analysis Branch

Digitally signed by  
WEPLER.PETER.M.1228

647353

Date: 2019.10.30

14:35:07 -04'00'

Attachment



**Endangered Species Act (ESA) determination and assessment for northern long-eared bat (*Myotis septentrionalis*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), and seabeach amaranth (*Amaranthus pumilus*)**

### **Northern Long-Eared Bat (*Myotis septentrionalis*)**

#### *Species Information*

The northern long-eared bat is a medium-sized bat with a body length of 3 to 3.7 inches but a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale-brown on the underside. This bat is distinguished by its long ears, particularly as compared to other bats in its genus (USFWS 2015).

Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, they are found hibernating most often in small crevices or cracks, often with only the nose and ears visible. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees) if trees are greater than 3 inches in diameter (USFWS 2015).

Northern long-eared bats emerge at dusk to feed. They primarily fly through the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation.

The northern long-eared bat's range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. The species' range includes 37 States (including New Jersey) and the District of Columbia, (USFWS 2015).

#### *Species Observations within Highlands Project Area*

The Service did not report northern long-eared bats within the project area. A literature search yielded no reports of northern long-eared bats within the project area.

#### *Highlands, New Jersey Project*

There are no known caves or mines within the project area. The District does not expect to remove trees greater than 3 inches in diameter.

After a full evaluation of the northern long-eared bat life history, habitats in the project area, and proposed project activities, a "no affect" determination was made by the

District on populations of northern long-eared bat as a result of implementation of the proposed activities.

### ***Piping plover (*Charadrius melodus*)***

#### ***Species Information***

The piping plover is a small shorebird approximately 7 inches long with a wingspan of about 15 inches. Piping plovers have white underparts with a light beige back and crown. Breeding adults have a single black breast band, which is often incomplete, and a black bar across the forehead. The legs and bill are orange in summer, with a black tip on the bill. In winter, the birds lose the breast bands, the legs fade from orange to pale yellow, and the bill becomes mostly black. Piping plover adults and chicks feed on marine macroinvertebrates such as worms, fly larvae, beetles, and crustaceans (USFWS 1996).

Piping plovers are present on the New Jersey shore during the breeding season, generally between March 15 and August 31. These territorial birds nest above the high tide line, usually on sandy ocean beaches and barrier islands, but also on gently sloping foredunes, blowout areas behind primary dunes, washover areas cut into or between dunes, the ends of sandspits, and deposits of suitable dredged or pumped sand. Piping plover nests consist of a shallow scrape in the sand, frequently lined with shell fragments and often located near small clumps of vegetation. Females lay four eggs that hatch in about 25 days, and surviving chicks learn to fly (fledge) after about 25 to 35 days. The flightless chicks follow their parents to feeding areas, which include the intertidal zone of ocean beaches, ocean washover areas, mudflats, sandflats, wrack lines (organic ocean material left by high tide), and the shorelines of coastal ponds, lagoons, and salt marshes (USFWS 1996).

#### ***Species Observations within Highlands Project Area***

The Service stated in the draft Fish and Wildlife Coordination Act Report (FWCAR; USFWS 2016) that piping plovers are not observed within Highlands, however, piping plovers are observed breeding on the beaches of Sandy Hook and Sea Bright about ¼ of a mile from the Highlands project area. eBird, a real-time, online checklist program, managed by the Cornell Lab of Ornithology and National Audubon Society, provides rich data sources for basic information on bird abundance and distribution at a variety of spatial and temporal scales. There are numerous reports of piping plovers on the beaches of Sandy Hook and Sea Bright through eBird (eBird 2019). There is also one report from 2013 (Saldutti 2013), of piping plovers in Highlands on eBird. However, this report is suspect as the report states 10 piping plovers, on Bay Ave, three blocks inland,

surrounded by houses, with no sandy beach. This is not piping plover habitat (confirmed by seasonal field inspection associated with USACE/FWS monitoring events).

### *Highlands, New Jersey Project*

There are no reported piping plovers within the project alignment. Most of the project alignment is along existing bulkhead that does not provide beach habitat for piping plovers. The little beach areas that do exist, do not provide habitat for piping plovers. The beaches are very small, surrounded by homes or commercial buildings, and provide no foredune or washover areas. However, there are breeding piping plovers nearby on Sandy Hook beaches about a ¼ of a mile away from the project alignment. The use of vibratory pile driving may provide noise disturbance to the piping plovers. If present, piping plovers may be exposed to in air noise from pile driving, but would be expected to avoid the area around active impact pile driving and extraction construction activities. Pile driving activities would not occur at beaches that are designated as piping plover critical habitat. Current design level does not detail the type of pile driving, materials, or duration. During the Preconstruction Engineering and Design (PED) phase of the project, the District will coordinate with the Service in order to mitigate any noise impacts (dBA at nest cannot exceed 6 dBA higher than ambient level). Construction of the project would temporarily increase ambient noise levels in and around the construction sites. Based on data presented in Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (EPA , 1971), the main phases of outdoor construction typically generate noise levels that range from 78 dBA to 89 dBA, approximately 50 feet from a construction site. Noise levels are estimated to decrease by approximately 6 dBA with every doubling of distance from a noise source. (It should be noted that the standard attenuation rate for point source noise (e.g. pile driving) is 6 dBA, and the standard attenuation rate for line source noise (e.g. traffic related noise) is 3 dBA. These standard attenuation rates do not take into account any reduction factors, such as soft site, vegetation, or atmospheric conditions. The threshold level for a significant noise impact is defined as a permanent increase in noise or prolonged periods of nighttime noise in noise-sensitive areas). Construction noise may at times be between 78 and 89 dBA outside the houses adjacent to the construction sites, depending on the type of construction activity that is conducted; noise levels inside the houses would be approximately 30 to 40 dBA lower. Such measures may include but are not limited to construction windows and noise dampening measures.

After a full evaluation of the piping plover life history, habitats in the project area, coordination with the Service, and proposed project activities, a “May Affect, but is not likely to adversely affect” determination was made by the District on populations of piping plover as a result of implementation of the proposed activities.

## Red Knot (*Calidris canutus rufa*)

### *Species Information*

The rufa red knot (*Calidris canutus rufa*) is a medium-sized shorebird about 9 to 11 inches (in) in length. The red knot migrates annually between its breeding grounds in the Canadian Arctic and several wintering regions, including the Southeast United States (Southeast), the Northeast Gulf of Mexico, northern Brazil, and Tierra del Fuego at the southern tip of South America. During both the northbound (spring) and southbound (fall) migrations, red knots use key staging and stopover areas to rest and feed.

On the breeding grounds, the red knot's diet consists mostly of terrestrial invertebrates such as insects and other arthropods.

Geocator and resightings data show definitively that the *rufa* nonbreeding range includes the entire Atlantic and Caribbean coasts of South America and the Caribbean islands.

Coastal habitats used by red knots in migration and wintering areas are similar in character, generally coastal marine and estuarine (partially enclosed tidal area where fresh and salt water mixes) habitats with large areas of exposed intertidal sediments. Migration and wintering habitats include both high-energy ocean- or bay-front areas, as well as tidal flats in more sheltered bays and lagoons. Preferred wintering and migration microhabitats are muddy or sandy coastal areas, specifically, the mouths of bays and estuaries, tidal flats, and unimproved tidal inlets. Along the U.S. Atlantic coast, dynamic and ephemeral (lasting only briefly) features are important red knot habitats, including sand spits, islets, shoals, and sandbars, features often associated with inlets. In many wintering and stopover areas, quality high-tide roosting habitat (i.e., close to feeding areas, protected from predators, with sufficient space during the highest tides, free from excessive human disturbance) is limited (USFWS 2014).

The red knot breeds in the Canadian arctic and winters mainly in Tierra del Fuego, northern Brazil, or Florida, and migrates through New Jersey, to and from its breeding sites in the spring and fall (USFWS 2014). Red knots utilize coastal marine and estuarine habitats during the spring and fall migrations. Red knots show moderate fidelity to particular migration staging areas between years (USFWS 2014). These habitats include high-energy ocean or bay front shores, tidal flats in sheltered bays, and lagoons (USFWS 2014). In North America, red knots are found along sandy, gravel, or cobble beaches; tidal mudflats; saltmarshes; shallow coastal impoundments and lagoons; and peat banks. Red knots use sandy beaches during both the spring and fall migration (USFWS 2014).

The red knot is a specialized molluscivore, primarily eating hard-shelled mollusks and supplementing with softer invertebrate prey (USFWS 2014). Red knots are restricted to foraging in the top 0.8 to 1.2 inches of sediment due to bill morphology (USFWS 2014). Red knots forage on a number of prey, exhibiting preference for specific prey within specific stopovers, during the spring and fall migrations and based on wintering location (USFWS 2014). In New Jersey, red knots exhibited preference of horseshoe crab eggs during the spring migration (USFWS 2014). Red knots also forage on small periwinkles (*Littorina* spp.), tiny blue mussels and blue mussel spat (*Mytilus edulis*), gem clams (*Gemma gemma*) (not preferred), amphipods, naticid snails, polychaeta worms, insect larvae, crustaceans, sand fleas (*Haustoriids* spp.), mole crabs (*Emerita talpoida*), dwarf surf clams (*Mulinia lateralis*), small bilvalves (*Tellina*, *Macoma*, *Donax*, *Gemmula*, *Iphigenia*, *Tivella*, and *Arca* spp.), and mud snails (*Peringia ulvae*; USFWS 2014).

#### *Species Observations within Highlands Project Area*

eBird reports three observations of red knots near the Highlands project area. One sighting (Goione 2019) was on Sandy Hook and the other two observations (Fanning 2018) were along the Navesink River 1 mile south of the Rt. 36 Bridge over the river.

#### *Union Beach, New Jersey Project*

Red knot may migrate through the Highland project area in the spring and the fall. However, the project area does not contain suitable habitat for foraging. As noted above, red knots have not been observed within the project footprint.

Therefore, after a full evaluation of red knot life history, habitats in the project area, and proposed project activities, a “May Affect, but is not likely to adversely affect” determination was made by the District on populations of red knot as a result of implementation these proposed activities.

#### ***Seabeach Amaranth (Amaranthus pumilus)***

##### *Species Information*

An annual member of the amaranth family, seabeach amaranth has reddish stems and small, rounded, notched, spinach-green leaves. In New Jersey, these low-growing plants are typically about 4 inches across by late summer, but can occasionally reach 2 or 3 feet in diameter. The small white flowers and dark seeds are located in inconspicuous clusters along the stems. Germination begins in May and continues through the summer. Flowering begins as soon as plants reach sufficient size (June or

July) and continues until the plants die between September and December (USFWS 2013).

Seabeach amaranth is native (endemic) to Atlantic Coast beaches and barrier islands. The primary habitat of seabeach amaranth consists of overwash flats at accreting ends of islands, lower foredunes, and upper strands of non-eroding beaches (landward of the wrackline), although the species occasionally establishes small temporary populations in other habitats, including sound-side beaches, blowouts in foredunes, inter-dunal areas, and on sand and shell material deposited for beach replenishment or as dredge spoil. Seabeach amaranth usually grows on a nearly pure sand substrate, occasionally with shell fragments mixed in (USFWS 2013).

Seabeach amaranth occupies elevations from 8 inches to 5 feet above mean high tide. The plant grows in the upper beach zone above the high tide line, and is intolerant of even occasional flooding during its growing season. The habitat of seabeach amaranth is sparsely vegetated with annual herbs and, less commonly, perennial herbs (mostly grasses) and scattered shrubs. Vegetative associates of seabeach amaranth include sea rocket (*Cakile edentula*), seabeach spurge (*Chamaesyce polygonifolia*), and other species that require open, sandy beach habitats. However, this species is intolerant of competition and does not occur on well-vegetated sites (USFWS 2013).

#### *Species Observations within Highlands Project Area*

The Service stated in the February 2016 draft FWCAR that seabeach amaranth occurs along the Raritan Bay and Atlantic Ocean beaches but not in Highlands. A literature search yielded no reports of seabeach amaranth within the project area.

#### *Highlands, New Jersey Project*

The USACE will survey for seabeach amaranth one week prior to construction on the beaches during the growing season (May 15 – Nov 30). If any seabeach amaranth plants are identified, the USACE will install string-and-post fencing to allow a 3-meter buffer around each plant or group of plants. Fencing will be marked with flagging and signs. No intrusions (including personnel, equipment, or materials) will be allowed within fenced areas. Surveys and fencing will be coordinated with the Service before and during the construction period.

After a full evaluation of seabeach amaranth life history, habitats in the project area, and proposed project activities, a “May Affect, but is not likely to adversely affect” determination was made by the District on populations of seabeach amaranth as a result of implementation of the proposed activities.

## References

- eBird 2019 Checklist: <https://ebird.org/map/pipplo?env.minX=-124.3044523775&env.minY=11.3462354134857&env.maxX=-52.4392296479381&env.maxY=54.0935076551961> eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org>. (Accessed: Date [October 23, 2019]).
- Kerlinger, P., J. D. Dowell, and J. Guarnaccia. 2011. Preconstruction avian studies, Bayshore Regional Sewerage Authority Wind Power Project Borough of Union Beach Monmouth County, New Jersey.
- Fanning, Lisa Ann. 2018. eBird Checklist: <https://ebird.org/checklist/S46037605>. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org>. (Accessed: Date [October 23, 2019]).
- Goione, Michael. 2019. eBird Checklist: <https://ebird.org/checklist/S59982399>. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org>. (Accessed: Date [October 23, 2019]).
- Saldutti, Katelyn. 2013. eBird Checklist: <https://ebird.org/checklist/S15395520>. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org>. (Accessed: Date [October 23, 2019]).
- U.S. Fish and Wildlife Service. 1996. Piping plover (*Charadrius melodus*), Atlantic Coast population, revised recovery plan. U.S. Department of the Interior, Fish and Wildlife Service, Hadley, Massachusetts. 245 pp.
- U.S. Fish and Wildlife Service. 2013. Seabeach amaranth 2012 year-end report. U.S. Department of the Interior, Fish and Wildlife Service, Pleasantville, New Jersey. 12 pp.
- U. S. Fish and Wildlife Service. 2014. Rufa red knot background Information and threats assessment supplement to Endangered and Threatened Wildlife and Plants; Final Threatened Status for the Rufa Red Knot (*Calidris canutus rufa*) [Docket No. FWS-R5-ES-2013-0097; RIN AY17].

U. S. Fish and Wildlife Service. 2016. Draft Fish and Wildlife Coordination Act Section 2(b) Report Raritan Bay and Sandy Hook Bay Highlands, New Jersey Coastal Storm Risk Management Feasibility Study Monmouth County, New Jersey, New Jersey Field Office, Galloway New Jersey





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
New Jersey Ecological Services Field Office  
4 E. Jimmie Leeds Road, Suite 4

Galloway, NJ 08205

Phone: (609) 646-9310 Fax: (609) 646-0352

<http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html>



In Reply Refer To:  
Consultation Code: 05E2NJ00-2015-SLI-0394  
Event Code: 05E2NJ00-2019-E-03733  
Project Name: Highlands

September 06, 2019

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species that may occur in your proposed action area and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*)

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

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

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

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

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

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

Attachment(s):

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

## Official Species List

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

This species list is provided by:

**New Jersey Ecological Services Field Office**

4 E. Jimmie Leeds Road, Suite 4

Galloway, NJ 08205

(609) 646-9310

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## Project Summary

Consultation Code: 05E2NJ00-2015-SLI-0394

Event Code: 05E2NJ00-2019-E-03733

Project Name: Highlands

Project Type: LAND - FLOODING

Project Description: Highlands, NJ coastal flood control consisting of buried seawalls, bulkheads, and roadway swing gate. Anticipated start of construction Dec 2017

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/40.40432960896218N73.98696760935101W>



Counties: Monmouth, NJ

## Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

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

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

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

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

### Mammals

| NAME                                                                                                                                                                                                                             | STATUS     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Northern Long-eared Bat <i>Myotis septentrionalis</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a> | Threatened |

### Birds

| NAME                                                                                                                                                                                                                                                                                                                                                                                                    | STATUS     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Piping Plover <i>Charadrius melodus</i><br>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.<br>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a> | Threatened |
| Red Knot <i>Calidris canutus rufa</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>                                                                                                                                                                                        | Threatened |

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## Flowering Plants

| NAME                                                                                                                                                                                                                   | STATUS     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Seabeach Amaranth <i>Amaranthus pumilus</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/8549">https://ecos.fws.gov/ecp/species/8549</a> | Threatened |

## Critical habitats

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

# USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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

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# Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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

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

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

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

| NAME                                                                                                                                                                                                                                                                                                                                                           | BREEDING SEASON         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| American Oystercatcher <i>Haematopus palliatus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/8935">https://ecos.fws.gov/ecp/species/8935</a>                                                                                                        | Breeds Apr 15 to Aug 31 |
| Bald Eagle <i>Haliaeetus leucocephalus</i><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br><a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a> | Breeds Oct 15 to Aug 31 |

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| NAME                                                                                                                                                                                                                                                                                                                                                                   | BREEDING SEASON         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Black Scoter <i>Melanitta nigra</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                                      | Breeds elsewhere        |
| <b>Black Skimmer <i>Rynchops niger</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/5234">https://ecos.fws.gov/ecp/species/5234</a>                                                                                                                        | Breeds May 20 to Sep 15 |
| <b>Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9399">https://ecos.fws.gov/ecp/species/9399</a>                                                                                                       | Breeds May 15 to Oct 10 |
| <b>Black-legged Kittiwake <i>Rissa tridactyla</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                           | Breeds elsewhere        |
| <b>Bobolink <i>Dolichonyx oryzivorus</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                                                                                                                   | Breeds May 20 to Jul 31 |
| <b>Bonaparte's Gull <i>Chroicocephalus philadelphia</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                     | Breeds elsewhere        |
| <b>Brown Pelican <i>Pelecanus occidentalis</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br><a href="https://ecos.fws.gov/ecp/species/6034">https://ecos.fws.gov/ecp/species/6034</a> | Breeds Jan 15 to Sep 30 |
| <b>Buff-breasted Sandpiper <i>Calidris subruficollis</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9488">https://ecos.fws.gov/ecp/species/9488</a>                                                                                                      | Breeds elsewhere        |
| <b>Canada Warbler <i>Cardellina canadensis</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                                                                                                             | Breeds May 20 to Aug 10 |
| <b>Clapper Rail <i>Rallus crepitans</i></b><br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA                                                                                                                                                                                                 | Breeds Apr 10 to Oct 31 |

| NAME                                                                                                                                                                                                                                                                                                                                                                             | BREEDING SEASON         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Common Eider <i>Somateria mollissima</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                                           | Breeds Jun 1 to Sep 30  |
| <b>Common Loon <i>gavia immer</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br><a href="https://ecos.fws.gov/ecp/species/4464">https://ecos.fws.gov/ecp/species/4464</a>                        | Breeds Apr 15 to Oct 31 |
| <b>Common Tern <i>Sterna hirundo</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br><a href="https://ecos.fws.gov/ecp/species/4963">https://ecos.fws.gov/ecp/species/4963</a>                     | Breeds May 10 to Sep 10 |
| <b>Double-crested Cormorant <i>phalacrocorax auritus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br><a href="https://ecos.fws.gov/ecp/species/3478">https://ecos.fws.gov/ecp/species/3478</a> | Breeds Apr 20 to Aug 31 |
| <b>Dunlin <i>Calidris alpina arctica</i></b><br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA                                                                                                                                                                                                          | Breeds elsewhere        |
| <b>Eastern Whip-poor-will <i>Antrostomus vociferus</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                                                                                                               | Breeds May 1 to Aug 20  |
| <b>Golden-winged Warbler <i>Vermivora chrysoptera</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/8745">https://ecos.fws.gov/ecp/species/8745</a>                                                                                                                   | Breeds May 1 to Jul 20  |
| <b>Great Black-backed Gull <i>Larus marinus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                                       | Breeds Apr 15 to Aug 20 |
| <b>Gull-billed Tern <i>Gelochelidon nilotica</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9501">https://ecos.fws.gov/ecp/species/9501</a>                                                                                                                        | Breeds May 1 to Jul 31  |

| NAME                                                                                                                                                                                                                                                                                                                                                                 | BREEDING SEASON         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Herring Gull <i>Larus argentatus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                                   | Breeds Apr 20 to Aug 31 |
| <b>Hudsonian Godwit <i>Limosa haemastica</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                                                                                                             | Breeds elsewhere        |
| <b>Kentucky Warbler <i>Oporornis formosus</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                                                                                                            | Breeds Apr 20 to Aug 20 |
| <b>Least Tern <i>Sterna antillarum</i></b><br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA                                                                                                                                                                                                | Breeds Apr 20 to Sep 10 |
| <b>Lesser Yellowlegs <i>Tringa flavipes</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>                                                                                                                 | Breeds elsewhere        |
| <b>Long-eared Owl <i>asio otus</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/3631">https://ecos.fws.gov/ecp/species/3631</a>                                                                                                                          | Breeds elsewhere        |
| <b>Long-tailed Duck <i>Clangula hyemalis</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br><a href="https://ecos.fws.gov/ecp/species/7238">https://ecos.fws.gov/ecp/species/7238</a> | Breeds elsewhere        |
| <b>Nelson's Sparrow <i>Ammodramus nelsoni</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                                                                                                            | Breeds May 15 to Sep 5  |
| <b>Northern Gannet <i>Morus bassanus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                                  | Breeds elsewhere        |
| <b>Parasitic Jaeger <i>Stercorarius parasiticus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                                                                                       | Breeds elsewhere        |

| NAME                                                                                                                                                                                                                                                                        | BREEDING SEASON         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Prairie Warbler <i>Dendroica discolor</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                    | Breeds May 1 to Jul 31  |
| <b>Prothonotary Warbler <i>Protonotaria citrea</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                              | Breeds Apr 1 to Jul 31  |
| <b>Purple Sandpiper <i>Calidris maritima</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                    | Breeds elsewhere        |
| <b>Razorbill <i>Alca torda</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.                   | Breeds Jun 15 to Sep 10 |
| <b>Red-breasted Merganser <i>Mergus serrator</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. | Breeds elsewhere        |
| <b>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                      | Breeds May 10 to Sep 10 |
| <b>Red-throated Loon <i>Gavia stellata</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                      | Breeds elsewhere        |
| <b>Ring-billed Gull <i>Larus delawarensis</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.    | Breeds elsewhere        |
| <b>Roseate Tern <i>Sterna dougallii</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.          | Breeds May 10 to Aug 31 |
| <b>Royal Tern <i>Thalasseus maximus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.          | Breeds Apr 15 to Aug 31 |

| NAME                                                                                                                                                                                                                                                                     | BREEDING SEASON         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Ruddy Turnstone</b> <i>Arenaria interpres morinella</i><br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA                                                                                    | Breeds elsewhere        |
| <b>Rusty Blackbird</b> <i>Euphagus carolinus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                 | Breeds elsewhere        |
| <b>Seaside Sparrow</b> <i>Ammodramus maritimus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                               | Breeds May 10 to Aug 20 |
| <b>Semipalmated Sandpiper</b> <i>Calidris pusilla</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                            | Breeds elsewhere        |
| <b>Short-billed Dowitcher</b> <i>Limnodromus griseus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>            | Breeds elsewhere        |
| <b>Snowy Owl</b> <i>Bubo scandiacus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                          | Breeds elsewhere        |
| <b>Surf Scoter</b> <i>Melanitta perspicillata</i><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. | Breeds elsewhere        |
| <b>Whimbrel</b> <i>Numenius phaeopus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9483">https://ecos.fws.gov/ecp/species/9483</a>                            | Breeds elsewhere        |
| <b>White-winged Scoter</b> <i>Melanitta fusca</i><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. | Breeds elsewhere        |
| <b>Willet</b> <i>Tringa semipalmata</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                          | Breeds Apr 20 to Aug 5  |

| NAME                                                                                                                                                                                                                                                                           | BREEDING SEASON         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Wilson's Storm-petrel <i>Oceanites oceanicus</i></b><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. | Breeds elsewhere        |
| <b>Wood Thrush <i>Hylocichla mustelina</i></b><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                         | Breeds May 10 to Aug 31 |

## Probability Of Presence Summary

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

### Probability of Presence (■)

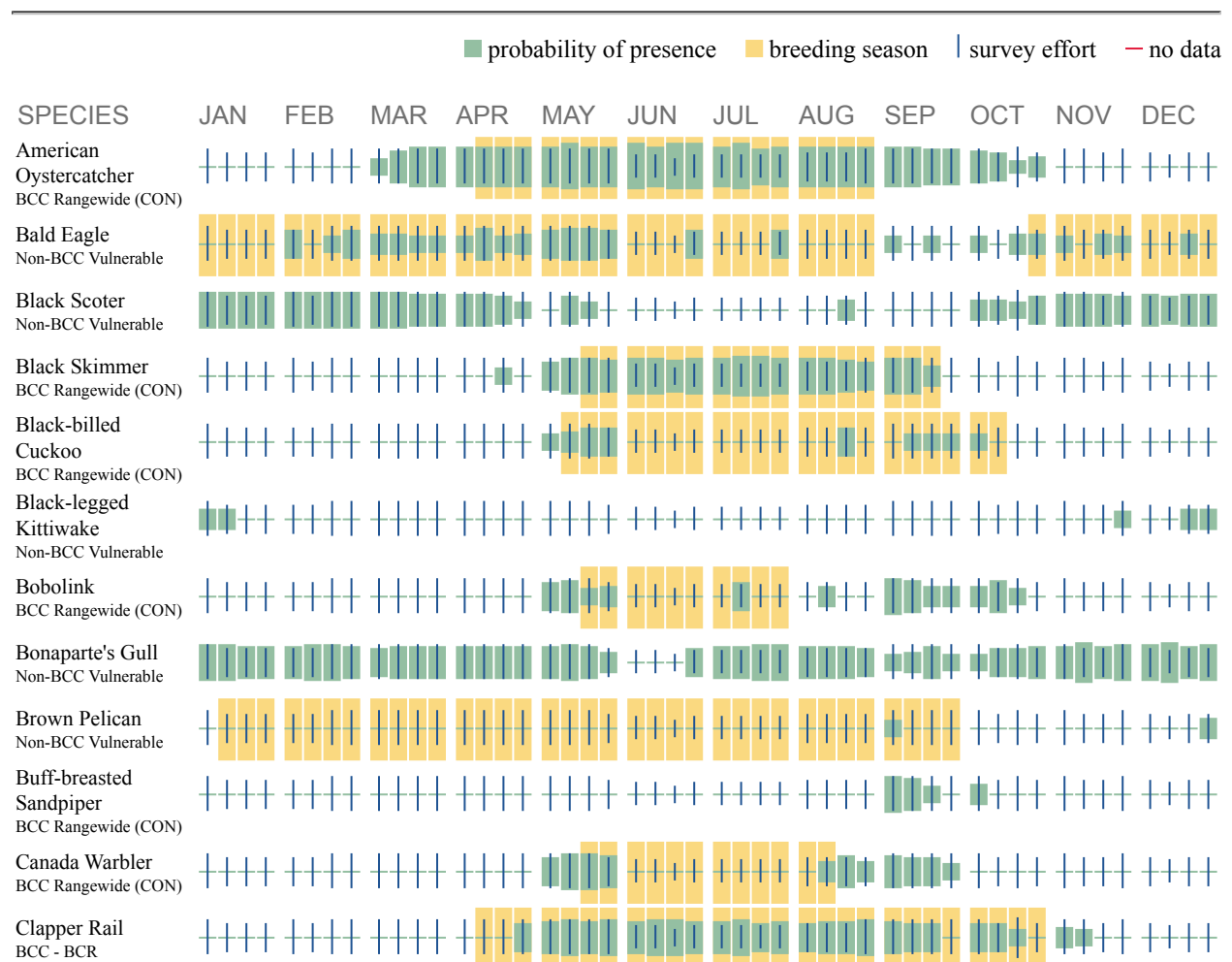
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be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

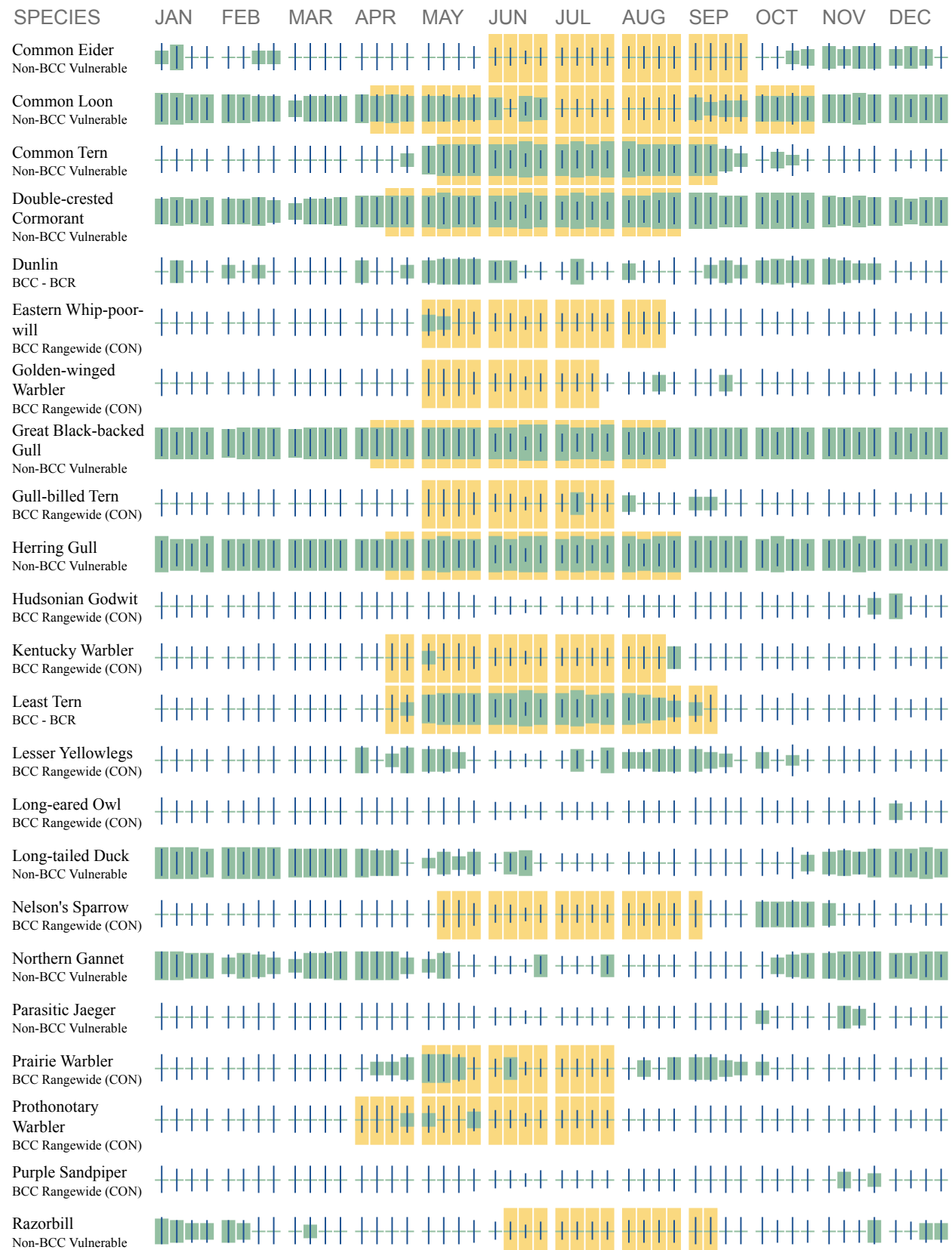
How is the probability of presence score calculated? The calculation is done in three steps:

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

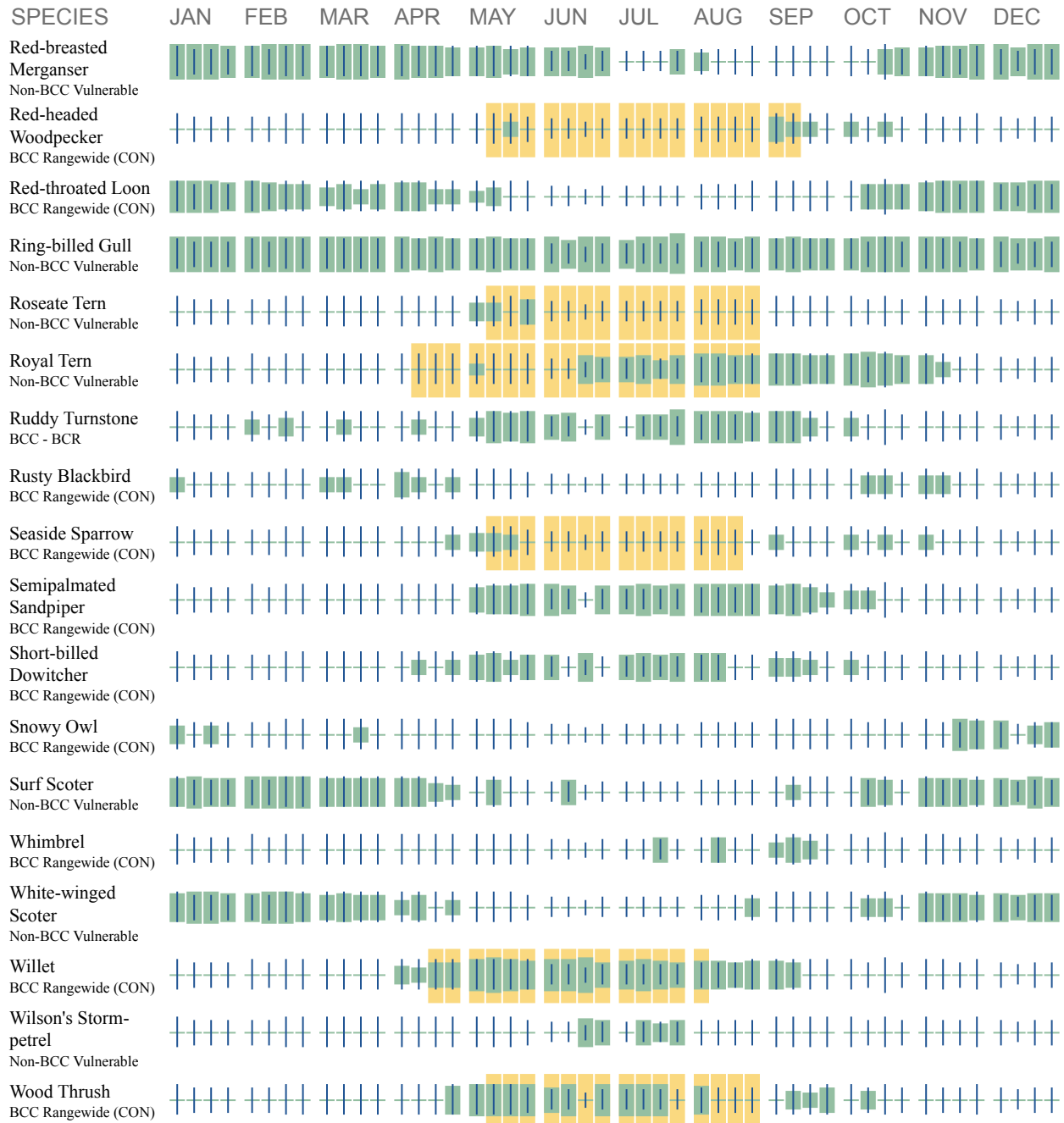
### Breeding Season (■)

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









Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>

- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

## Migratory Birds FAQ

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

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

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

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

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

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

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

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

**How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

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To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

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

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

### **Details about birds that are potentially affected by offshore projects**

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

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

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

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

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# Wetlands

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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

## ESTUARINE AND MARINE DEEPWATER

- [E1UBLx](#)
- [E1UBL](#)

## ESTUARINE AND MARINE WETLAND

- [E2US2P](#)
-



REPLY TO  
ATTENTION OF

Environmental Analysis Branch

**DEPARTMENT OF THE ARMY**  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
26 FEDERAL PLAZA  
NEW YORK, NEW YORK 10278-0090

June 24 2014

Mr. Eric Davis  
U.S. Fish & Wildlife Service, New Jersey Field Office  
927 North Main Street, Building D  
Pleasantville, New Jersey 08232

Subject: Section 7 Consultation for Raritan and Sandy Hook Bay Hurricane and Storm Damage Reduction Project for Highlands, Monmouth County, New Jersey.

Dear Mr. Davis,

The U.S. Army Corps of Engineers, New York District (District), has been undertaking actions following Hurricane Sandy along the Atlantic Coast of New York and New Jersey, which includes the Raritan Bay shoreline. This assistance consists of the rehabilitation of federally authorized hurricane and shore protection projects under the Disaster Relief Appropriation Act of 2013 (Public Law 113-2 also known as the Sandy Relief Bill). Under this authorization, the District is evaluating the Raritan and Sandy Hook Bay Hurricane and Storm Damage Reduction Project for Highlands, Monmouth County, New Jersey (Project).

Pursuant to our above referenced subject, the District, would like to initiate informal section 7 coordination for the project. Through the Services iPac system, Piping Plover (*Charadrius melodus*), Seabeach amaranth (*Amaranthus pumilus*), and northern long-eared Bat (*Myotis septentrionalis*) were identified as potentially occurring in the project area. The project will not affect the northern long-eared bat as there will be no activities near mines or caves and there will be no removal of any trees >3" in diameter at breast height.

The District is requesting information regarding seabeach amaranth and Piping Plover in and near Highlands, NJ. The District has been in contact with Ron Popowski regarding this project and we have exchanged multiple documents discussing the project extent and footprint. If you have any questions regarding this request, please do not hesitate to contact me at [matthew.voisine@usace.army.mil](mailto:matthew.voisine@usace.army.mil) or 917-790-8718.

Sincerely,

Matthew Voisine, Project Biologist

cc:  
Ron Popowski, USFWS



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE



In Reply Refer To:

2014-TA-0427

New Jersey Field Office  
Ecological Services  
927 North Main Street, Building D  
Pleasantville, New Jersey 08232  
Tel: 609/646 9310  
Fax: 609/646 0352

<http://www.fws.gov/northeast/njfieldoffice/>

Matthew Voisine, Biologist  
U.S. Army Corps of Engineers - New York District  
26 Federal Plaza, Room 2151  
New York, New York 10278  
[matthew.voisine@usace.army.mil](mailto:matthew.voisine@usace.army.mil)

**JUL 15 2014**

Dear Mr. Voisine:

The U.S. Fish and Wildlife Service (Service) has reviewed your June 24, 2014 request for updated information on the presence of federally listed threatened and endangered species for the Highlands Hurricane and Storm Damage Reduction Project, Monmouth County, New Jersey.

### **AUTHORITY**

The following comments are provided as technical assistance.

### **FEDERALLY LISTED SPECIES AND SPECIES PROPOSED FOR LISTING**

#### **Piping Plover**

The federally listed (threatened) piping plover (*Charadrius melodus*) nests approximately six miles east in Gateway National Recreation Area, Sandy Hook Unit during the breeding season between March 15 and August 31. The Highlands project area has no history of nesting piping plovers. We do not have any records indicating that piping plovers are nesting within the project area in 2014.

#### **Seabeach Amaranth**

The federally listed (threatened) plant seabeach amaranth (*Amaranthus pumilus*) is an annual plant endemic to Atlantic Coast beaches and barrier islands that was documented occurring in nearby Keansburg in 2013 approximately 3.5 linear miles from the proposed project area. The Highlands project area has no history of seabeach amaranth plants. The Service has yet to receive information regarding the presence of seabeach amaranth along the New Jersey coast in 2014.

## Northern Long-Eared Bat

On October 3, 2013, the Service announced a proposed rule to list the northern long-eared bat (*Myotis septentrionalis*) as an endangered species throughout its range. The northern long-eared bat is a medium-sized bat found across much of the eastern and north-central United States. The northern long-eared bat predominantly overwinters in hibernacula that include caves and abandoned mines. During the summer, this species typically roosts singly or in colonies underneath bark or in cavities or crevices of both live trees and snags. Northern long-eared bats are also known to roost in human-made structures such as buildings, barns, sheds, and under eaves of windows. Threats to the northern long-eared bat include disease due to the emergence of white-nose syndrome, improper closure at hibernacula, degradation and destruction of summer habitat, and use of pesticides. Tree removal could impact this species by killing, injuring, or disturbing breeding or roosting bats if conducted between April 1 and September 30.

## OTHER COMMENTS

Please be advised that Section 7 consultation pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) requires the lead Federal agency in charge of the proposed project (*i.e.*, the U.S. Army Corps of Engineers, New York District) to provide a determination to the Service on whether the project as proposed may affect federally listed species. Also please be advised that Mr. Eric Davis is no longer employed at the New Jersey Field Office. Our Field Supervisor is Mr. Eric Schrading.

Thank you for the opportunity to provide this review. Should you have any questions, please contact Ron Popowski at [Ron\\_Popowski@fws.gov](mailto:Ron_Popowski@fws.gov).

Sincerely,

A handwritten signature in black ink, appearing to be 'ES', written in a cursive style.

Eric Schrading  
Field Supervisor





**NOAA FISHERIES**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
Greater Atlantic Region



**US Army Corps  
of Engineers®**

### **GARFO ESA Section 7: 2017 NLAA Program Verification Form**

(Please submit a signed version of this form, together with any project plans, maps, supporting analyses, etc., to [nmfs.gar.esa.section7@noaa.gov](mailto:nmfs.gar.esa.section7@noaa.gov) with "2017 NLAA Program" in the subject line)

#### **Section 1: General Project Details**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                        |                          |                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------|
| Application Number:                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Raritan Bay and Sandy Hook Bay Highlands, New                                                                          |                          |                                                                            |
| Applicant(s):                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | USACE-New York District                                                                                                |                          |                                                                            |
| Permit Type (e.g. NWP, LOP, RGP, IP, Permit Modification):                                                                                                                                                                                                                                                                                                                                                                                                                                  | Civil Works Program                                                                                                    |                          |                                                                            |
| Anticipated project start date (e.g., 9/1/2017)                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12/01/2023                                                                                                             |                          |                                                                            |
| Anticipated project end date (e.g., 3/14/2018 – if there is no permit expiration date, write "N/A")                                                                                                                                                                                                                                                                                                                                                                                         | 12/01/2026                                                                                                             |                          |                                                                            |
| Project Type/Category (check all that apply to entire action):                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                        |                          |                                                                            |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Aquaculture (shellfish) and artificial reef creation                                                                   | <input type="checkbox"/> | Transportation and development (e.g., culvert construction, bridge repair) |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Routine maintenance dredging and disposal/beach nourishment                                                            | <input type="checkbox"/> | Mitigation (fish/wildlife enhancement or restoration)                      |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Piers, ramps, floats, and other structures                                                                             | <input type="checkbox"/> | Bank stabilization and dam maintenance                                     |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | If other, describe project type/category:<br>Bulkhead, floodwall and reinforced dune for coastal storm risk management |                          |                                                                            |
| Project/Action Description and Purpose (include town/city/state and water body where project is occurring; relevant permit conditions that aren't captured elsewhere on form):<br>The U.S. Army Corps of Engineers (USACE)'s Recommended Plan for the Coastal Storm Risk Management (CSRM) for Raritan Bay and Sandy Hook Bay, Highlands, New Jersey (Highlands) feasibility study is an alignment of floodwalls at elevation +14 feet (ft) North American Vertical Datum of 1988 (NAVD88). |                                                                                                                        |                          |                                                                            |
| LOCATION<br>The Borough of Highlands is located in Monmouth County, NJ, along Sandy Hook Bay and the Shrewsbury River.                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                        |                          |                                                                            |

|                                                                  |               |
|------------------------------------------------------------------|---------------|
| Type of Habitat Modified<br>(e.g., sand, cobble, silt/mud/clay): | Area (acres): |
| beach sand                                                       | 1.90          |
| silt and clay bay bottom                                         | 1.00          |
| Project Latitude (e.g., 42.625884)                               | 40.407494     |
| Project Longitude (e.g., -70.646114)                             | -73.990383    |

**Section 2: ESA-listed species and/or critical habitat in the action area:**

|                                     |                                                                                                                          |                                     |                                                |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------|
| <input checked="" type="checkbox"/> | Atlantic sturgeon (all DPSs)<br>If not all DPSs, list which here:                                                        | <input checked="" type="checkbox"/> | Kemp's ridley sea turtle                       |
| <input type="checkbox"/>            | Atlantic sturgeon critical habitat<br>(proposed or designated)<br>Indicate which DPS<br>(GOM, NYB, Chesapeake Bay DPSs): | <input checked="" type="checkbox"/> | Loggerhead sea turtle<br>(NW Atlantic DPS)     |
| <input type="checkbox"/>            | Shortnose sturgeon                                                                                                       | <input checked="" type="checkbox"/> | Leatherback sea turtle                         |
| <input type="checkbox"/>            | Atlantic salmon (GOM DPS)                                                                                                | <input type="checkbox"/>            | North Atlantic right whale                     |
| <input type="checkbox"/>            | Atlantic salmon critical habitat<br>(GOM DPS)                                                                            | <input type="checkbox"/>            | North Atlantic right whale<br>critical habitat |
| <input checked="" type="checkbox"/> | Green sea turtle (N. Atlantic DPS)                                                                                       | <input type="checkbox"/>            | Fin whale                                      |

**Section 3: NLAA Determination (check all applicable fields):**

|                                     |                                                                                                                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a) GENERAL PDC                      |                                                                                                                                                                                                |
| <input checked="" type="checkbox"/> | Yes, my project meets all of the General PDC.                                                                                                                                                  |
| <input type="checkbox"/>            | No, my project does not meet all the General PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):         |
|                                     | <b>Information for PDC 8</b> (if "max extent of stressor" exceeds "width of water body", PDC 8 is NOT met, and a justification in Section 4 is required to proceed with the verification form) |



|                          | Width (m)<br>of water body in<br>action area: | Stressor Category<br>(stressor that extends furthest distance<br>into water body – e.g., turbidity plume;<br>sound pressure wave):                                                                                                                                                                                   | Max extent (m)<br>of stressor into the<br>water body: |
|--------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
|                          | 400.00                                        | sound pressure                                                                                                                                                                                                                                                                                                       | 40.00                                                 |
| <input type="checkbox"/> | 1.                                            | No work will individually or cumulatively have an adverse effect on ESA-listed species or designated critical habitat; no work will cause adverse modification or destruction to proposed critical habitat.                                                                                                          |                                                       |
| <input type="checkbox"/> | 2.                                            | No work will occur in the tidally influenced portion of rivers/streams where Atlantic salmon presence is possible from April 10–November 7.                                                                                                                                                                          |                                                       |
| <input type="checkbox"/> | 3.                                            | No work will occur in Atlantic or shortnose sturgeon spawning grounds as follows:<br>i. New England: April 1–Aug. 31<br>ii. New York/Philadelphia: March 15–August 31<br>iii. Baltimore/Norfolk: March 15–July 1 and Sept. 15–Nov. 1                                                                                 |                                                       |
| <input type="checkbox"/> | 4.                                            | No work will occur in shortnose sturgeon overwintering grounds as follows:<br>i. New England District: October 15–April 30<br>ii. New York/Philadelphia: Nov. 1–March 15<br>iii. Baltimore: Nov. 1–March 15                                                                                                          |                                                       |
| <input type="checkbox"/> | 5.                                            | Within designated Atlantic salmon critical habitat, no work will affect spawning and rearing areas (PBFs 1-7).                                                                                                                                                                                                       |                                                       |
| <input type="checkbox"/> | 6.                                            | Within proposed/designated Atlantic sturgeon critical habitat, no work will affect hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand) (PBF 1).                                                                                   |                                                       |
| <input type="checkbox"/> | 7.                                            | Work will not change temperature, water flow, salinity, or dissolved oxygen levels.                                                                                                                                                                                                                                  |                                                       |
| <input type="checkbox"/> | 8.                                            | If it is possible for ESA-listed species to pass through the action area, a zone of passage with appropriate habitat for ESA-listed species (e.g., depth, water velocity, etc.) must be maintained (i.e., physical or biological stressors such as turbidity and sound pressure must not create barrier to passage). |                                                       |
| <input type="checkbox"/> | 9.                                            | Any work in designated North Atlantic right whale critical habitat must have no effect on the physical and biological features (PBFs).                                                                                                                                                                               |                                                       |
| <input type="checkbox"/> | 10.                                           | The project will not adversely impact any submerged aquatic vegetation (SAV).                                                                                                                                                                                                                                        |                                                       |
| <input type="checkbox"/> | 11.                                           | No blasting will occur.                                                                                                                                                                                                                                                                                              |                                                       |

b) The following stressors are applicable to the action  
(check all that apply – use Stressor Category Table for guidance):

|                                     |                                |
|-------------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> | Sound Pressure                 |
| <input type="checkbox"/>            | Impingement/Entrapment/Capture |
| <input checked="" type="checkbox"/> | Turbidity/Water Quality        |
| <input type="checkbox"/>            | Entanglement                   |

|                                     |                      |
|-------------------------------------|----------------------|
| <input checked="" type="checkbox"/> | Habitat Modification |
| <input type="checkbox"/>            | Vessel Traffic       |

| Activity Category                                                          | Stressor Category |                                |                         |              |              |                |
|----------------------------------------------------------------------------|-------------------|--------------------------------|-------------------------|--------------|--------------|----------------|
|                                                                            | Sound Pressure    | Impingement/Entrapment/Capture | Turbidity/Water Quality | Entanglement | Habitat Mod. | Vessel Traffic |
| Aquaculture (shellfish) and artificial reef creation                       | N                 | N                              | Y                       | Y            | Y            | Y              |
| Routine maintenance dredging and disposal/beach nourishment                | N                 | Y                              | Y                       | N            | Y            | Y              |
| Piers, ramps, floats, and other structures                                 | Y                 | N                              | Y                       | Y            | Y            | Y              |
| Transportation and development (e.g., culvert construction, bridge repair) | Y                 | N                              | Y                       | N            | Y            | Y              |
| Mitigation (fish/wildlife enhancement or restoration)                      | N                 | N                              | Y                       | N            | Y            | Y              |
| Bank stabilization and dam maintenance                                     | Y                 | N                              | Y                       | N            | Y            | Y              |

|                                     |                                                                                                                                                                                               |                              |                 |                                                                                            |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|--------------------------------------------------------------------------------------------|
| c) SOUND PRESSURE PDC               |                                                                                                                                                                                               |                              |                 |                                                                                            |
| <input checked="" type="checkbox"/> | Yes, my project meets all of the Sound Pressure PDC below.                                                                                                                                    |                              |                 |                                                                                            |
| <input type="checkbox"/>            | No, my project does not meet all the Sound Pressure PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form): |                              |                 |                                                                                            |
|                                     | <b>Information for PDC 14</b> (refer to SOPs for guidance):                                                                                                                                   |                              |                 |                                                                                            |
|                                     | Pile material (e.g., steel pipe, timber, concrete)                                                                                                                                            | Pile diameter/width (inches) | Number of piles | Installation method (e.g., impact hammer, vibratory start and then impact hammer to depth) |
| a)                                  | steel sheet                                                                                                                                                                                   | 24.00                        | 40              | vibratory                                                                                  |
| b)                                  |                                                                                                                                                                                               |                              |                 |                                                                                            |



|                                        |                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|                                        | c)                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
|                                        | d)                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
| <input type="checkbox"/>               | 12.                                                                                                                                                                                                            | If the pile driving is occurring during a time of year when ESA-listed species may be present, and the anticipated noise is above the behavioral noise threshold of those species (please see SOPs), a 20 minute "soft start" is required to allow for animals to leave the project vicinity before sound pressure increases.                                                                                         |  |  |  |
| <input type="checkbox"/>               | 13.                                                                                                                                                                                                            | Any new pile supported structure must involve the installation of $\leq 50$ piles (below MHW).                                                                                                                                                                                                                                                                                                                        |  |  |  |
| <input type="checkbox"/>               | 14.                                                                                                                                                                                                            | All underwater noise (pressure) is below ( $<$ ) the physiological/injury noise threshold for ESA-listed species in the action area (if project involves steel piles, or non-steel piles $> 24$ -inches in diameter/width, include noise estimate with this form).                                                                                                                                                    |  |  |  |
| d) IMPINGEMENT/ENTRAINMENT/CAPTURE PDC |                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
| <input type="checkbox"/>               | Yes, my project meets all of the Impingement/Entrainment/Capture PDC below.                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
| <input type="checkbox"/>               | No, my project does not meet all the Impingement/Entrainment/Capture PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form): |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
|                                        | <b>Information for Dredging:</b>                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
|                                        | If dredging permit/authorization includes multiple years of maintenance, include estimated number of dredging/disposal events:                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
|                                        | <b>Information for PDC 18 (refer to SOPs for guidance):</b>                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
|                                        | Mesh screen size (mm) for temporary intake:                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
| <input type="checkbox"/>               | 15.                                                                                                                                                                                                            | Only mechanical, cutterhead, and low volume hopper (e.g., CURRITUCK) dredges may be used.                                                                                                                                                                                                                                                                                                                             |  |  |  |
| <input type="checkbox"/>               | 16.                                                                                                                                                                                                            | No new dredging in proposed or designated Atlantic sturgeon or Atlantic salmon critical habitat (maintenance dredging still must meet all other PDCs). New dredging outside Atlantic sturgeon or salmon critical habitat is limited to one time dredge events (e.g., burying a utility line) and minor ( $\leq 2$ acres) expansions of areas already subject to maintenance dredging (e.g., marina/harbor expansion). |  |  |  |
| <input type="checkbox"/>               | 17.                                                                                                                                                                                                            | Work behind cofferdams, turbidity curtains, and other methods to block access of animals to dredge footprint is required when operationally feasible and ESA-listed species may be present.                                                                                                                                                                                                                           |  |  |  |
| <input type="checkbox"/>               | 18.                                                                                                                                                                                                            | Temporary intakes related to construction must be equipped with appropriate sized mesh screening (as determined by GARFO section 7 biologist and/or according to <a href="#">Chapter 11 of the NOAA Fisheries Anadromous Salmonid Passage Facility Design</a> ) and must not have greater than 0.5 fps intake velocities, to prevent impingement or entrainment of any ESA-listed species life stage.                 |  |  |  |
| <input type="checkbox"/>               | 19.                                                                                                                                                                                                            | No new permanent intake structures related to cooling water, or any other inflow at facilities (e.g. water treatment plants, power plants, etc.).                                                                                                                                                                                                                                                                     |  |  |  |
| e) TURBIDITY/WATER QUALITY PDC         |                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |
| <input type="checkbox"/>               | Yes, my project meets all of the Turbidity/Water Quality PDC below.                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |



|                                     |                                                                                                                                                                                                        |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | No, my project does not meet all the Turbidity/Water Quality PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form): |
| <input type="checkbox"/>            | 20. Work behind cofferdams, turbidity curtains, or other methods to control turbidity are required when operationally feasible and ESA-listed species may be present.                                  |
| <input type="checkbox"/>            | 21. In-water offshore disposal may only occur at designated disposal sites that have already been consulted on with GARFO.                                                                             |
| <input type="checkbox"/>            | 22. Any temporary discharges must meet state water quality standards; no discharges of toxic substances.                                                                                               |
| <input checked="" type="checkbox"/> | 23. Only repair of existing discharge pipes allowed; no new construction.                                                                                                                              |

#### f) ENTANGLEMENT PDC

| <input type="checkbox"/>                     | Yes, my project meets all of the Entanglement PDC below.                                                                                                                                                                                                                                 |         |                                            |         |    |  |  |    |  |  |    |  |  |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------|---------|----|--|--|----|--|--|----|--|--|
| <input type="checkbox"/>                     | No, my project does not meet all the Entanglement PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):                                                                                              |         |                                            |         |    |  |  |    |  |  |    |  |  |
| <b>Information for Aquaculture Projects:</b> |                                                                                                                                                                                                                                                                                          |         |                                            |         |    |  |  |    |  |  |    |  |  |
|                                              | <table border="1"> <thead> <tr> <th></th> <th>Type of Aquaculture (e.g., cage on bottom)</th> <th>Acreage</th> </tr> </thead> <tbody> <tr> <td>a)</td> <td></td> <td></td> </tr> <tr> <td>b)</td> <td></td> <td></td> </tr> <tr> <td>c)</td> <td></td> <td></td> </tr> </tbody> </table> |         | Type of Aquaculture (e.g., cage on bottom) | Acreage | a) |  |  | b) |  |  | c) |  |  |
|                                              | Type of Aquaculture (e.g., cage on bottom)                                                                                                                                                                                                                                               | Acreage |                                            |         |    |  |  |    |  |  |    |  |  |
| a)                                           |                                                                                                                                                                                                                                                                                          |         |                                            |         |    |  |  |    |  |  |    |  |  |
| b)                                           |                                                                                                                                                                                                                                                                                          |         |                                            |         |    |  |  |    |  |  |    |  |  |
| c)                                           |                                                                                                                                                                                                                                                                                          |         |                                            |         |    |  |  |    |  |  |    |  |  |
| <input type="checkbox"/>                     | 24. Shell on bottom <50 acres with maximum of 4 corner marker buoys;                                                                                                                                                                                                                     |         |                                            |         |    |  |  |    |  |  |    |  |  |
| <input type="checkbox"/>                     | 25. Cage on bottom with no loose floating lines <5 acres and minimal vertical lines (1 per string of cages, 4 corner marker buoys);                                                                                                                                                      |         |                                            |         |    |  |  |    |  |  |    |  |  |
| <input type="checkbox"/>                     | 26. Floating cages in <3 acres in waters and shallower than -10 feet MLLW with no loose lines and minimal vertical lines (1 per string of cages, 4 corner marker buoys);                                                                                                                 |         |                                            |         |    |  |  |    |  |  |    |  |  |
| <input type="checkbox"/>                     | 27. Floating upweller docks in >10 feet MLLW.                                                                                                                                                                                                                                            |         |                                            |         |    |  |  |    |  |  |    |  |  |
| <input type="checkbox"/>                     | 28. Any in-water lines, ropes, or chains must be made of materials and installed in a manner (properly spaced) to minimize the risk of entanglement by keeping lines taut or using methods to promote rigidity (e.g., sheathed or weighted lines that do not loop or entangle).          |         |                                            |         |    |  |  |    |  |  |    |  |  |

#### g) HABITAT MODIFICATION PDC

|                                     |                                                                                                                                                                                                     |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | Yes, my project meets all of the Habitat Modification PDC below.                                                                                                                                    |
| <input type="checkbox"/>            | No, my project does not meet all the Habitat Modification PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form): |



|                                                             |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>                                    | 29.                                                                                                                                                                                           | No conversion of habitat type (soft bottom to hard, or vice versa) for aquaculture or reef creation.                                                                                                                                                            |
| h) VESSEL TRAFFIC PDC                                       |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
| <input type="checkbox"/>                                    | Yes, my project meets all of the Vessel Traffic PDC below.                                                                                                                                    |                                                                                                                                                                                                                                                                 |
| <input type="checkbox"/>                                    | No, my project does not meet all the Vessel Traffic PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form): |                                                                                                                                                                                                                                                                 |
| <b>Information for PDC 33 (refer to SOPs for guidance):</b> |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
|                                                             | Temporary Project Vessel Type<br>(e.g., work barge, tug, scow, etc.)                                                                                                                          | Number of Vessels                                                                                                                                                                                                                                               |
| a)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
| b)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
| c)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
|                                                             | Type of Non-Commercial Vessels Added (e.g., 20' recreational motor boat – only include if there is a net increase directly/indirectly resulting from project)                                 | Number of Vessels<br>(if sum > 2, PDC 33 is not met and justification required in Section 4)                                                                                                                                                                    |
| a)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
| b)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
|                                                             | Type of Commercial Vessels Added<br>(only include if there is a net increase directly/indirectly resulting from project)                                                                      | Number of Vessels<br>(if > 0, PDC 33 is not met and justification required in Section 4)                                                                                                                                                                        |
| a)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
| b)                                                          |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                 |
| <input type="checkbox"/>                                    | 30.                                                                                                                                                                                           | Speed limits below 10 knots for project vessels with buffers of 150 feet for all listed species (1,500 feet for right whales).                                                                                                                                  |
| <input type="checkbox"/>                                    | 31.                                                                                                                                                                                           | While dredging, dredge buffers of 300 feet in the vicinity of any listed species (1,500 feet for right whales), with speeds of 4 knots maximum.                                                                                                                 |
| <input type="checkbox"/>                                    | 32.                                                                                                                                                                                           | The number of project vessels must be limited to the greatest extent possible, as appropriate to size and scale of project.                                                                                                                                     |
| <input type="checkbox"/>                                    | 33.                                                                                                                                                                                           | The permanent net increase in vessels resulting from a project (e.g., dock/float/pier/boating facility) must not exceed two non-commercial vessels. A project must not result in the permanent net increase of any commercial vessels (e.g., a ferry terminal). |

#### Section 4: Justification for Review under the 2017 NLAA Program

If the action is not in compliance with all of the General PDC and appropriate stressor PDC, but you can provide justification and/or special conditions to demonstrate why the project still meets the NLAA determination and is consistent with the aggregate effects considered in the programmatic consultation, you may still certify your project through the NLAA program using



To demonstrate that the project is still NLAA, you must explain why the effects on ESA-listed species or critical habitat are **insignificant** (i.e., too small to be meaningfully measured or detected) or **discountable** (i.e., extremely unlikely to occur). Please use this language in your justification.

8 – Updated August 9, 2017



**Section 5: USACE Verification of Determination**

|                                                                                       |                                                                                                                                                                                                                              |            |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <input type="checkbox"/>                                                              | In accordance with the 2017 NLAA Programmatic Consultation, the Corps has determined that the action complies with all applicable PDC and is not likely to adversely affect listed species.                                  |            |
| <input checked="" type="checkbox"/>                                                   | In accordance with the 2017 NLAA Programmatic Consultation, the Corps has determined that the action is not likely to adversely affect listed species per the justification and/or special conditions provided in Section 4. |            |
| USACE Signature:                                                                      |                                                                                                                                                                                                                              | Date:      |
| WEPLER.PETER.M<br>.1228647353                                                         |                                                                                                                                                                                                                              | 02/11/2020 |
| Digitally signed by<br>WEPLER.PETER.M.1228647353<br>Date: 2020.02.11 08:16:18 -05'00' |                                                                                                                                                                                                                              |            |

**Section 6: GARFO Concurrence**

|                                                                                                     |                                                                                                                                                                                                                                                    |            |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <input type="checkbox"/>                                                                            | In accordance with the 2017 NLAA Program, GARFO PRD concurs with USACE's determination that the action complies with all applicable PDC and is not likely to adversely affect listed species or critical habitat.                                  |            |
| <input checked="" type="checkbox"/>                                                                 | In accordance with the 2017 NLAA Program, GARFO PRD concurs with USACE's determination that the action is not likely to adversely affect listed species or critical habitat per the justification and/or special conditions provided in Section 4. |            |
| <input type="checkbox"/>                                                                            | GARFO PRD does not concur with USACE's determination that the action complies with the applicable PDC (with or without justification), and recommends an individual Section 7 consultation to be completed independent from the 2017 NLAA Program. |            |
| GARFO Signature:                                                                                    |                                                                                                                                                                                                                                                    | Date:      |
| CARSON-<br>SUPINO.EDITH.ELEANOR.140<br>4702722                                                      |                                                                                                                                                                                                                                                    | 02/11/2020 |
| Digitally signed by CARSON-<br>SUPINO.EDITH.ELEANOR.1404702722<br>Date: 2020.02.11 11:16:32 -05'00' |                                                                                                                                                                                                                                                    |            |

1. The first part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present. The author points out that the United States has a long and complex history, and that it is important to understand the events and people that have shaped the nation.

2. The second part of the paper discusses the role of the federal government in the United States. It is argued that the federal government has a responsibility to protect the rights of its citizens and to promote the general welfare. The author points out that the federal government has a long history of intervention in the lives of its citizens, and that it is important to understand the reasons for this intervention.

3. The third part of the paper discusses the role of the states in the United States. It is argued that the states have a responsibility to protect the rights of their citizens and to promote the general welfare. The author points out that the states have a long history of intervention in the lives of their citizens, and that it is important to understand the reasons for this intervention.

4. The fourth part of the paper discusses the role of the courts in the United States. It is argued that the courts have a responsibility to protect the rights of its citizens and to promote the general welfare. The author points out that the courts have a long history of intervention in the lives of its citizens, and that it is important to understand the reasons for this intervention.

5. The fifth part of the paper discusses the role of the people in the United States. It is argued that the people have a responsibility to protect the rights of their citizens and to promote the general welfare. The author points out that the people have a long history of intervention in the lives of their citizens, and that it is important to understand the reasons for this intervention.

6. The sixth part of the paper discusses the role of the media in the United States. It is argued that the media has a responsibility to protect the rights of its citizens and to promote the general welfare. The author points out that the media has a long history of intervention in the lives of its citizens, and that it is important to understand the reasons for this intervention.

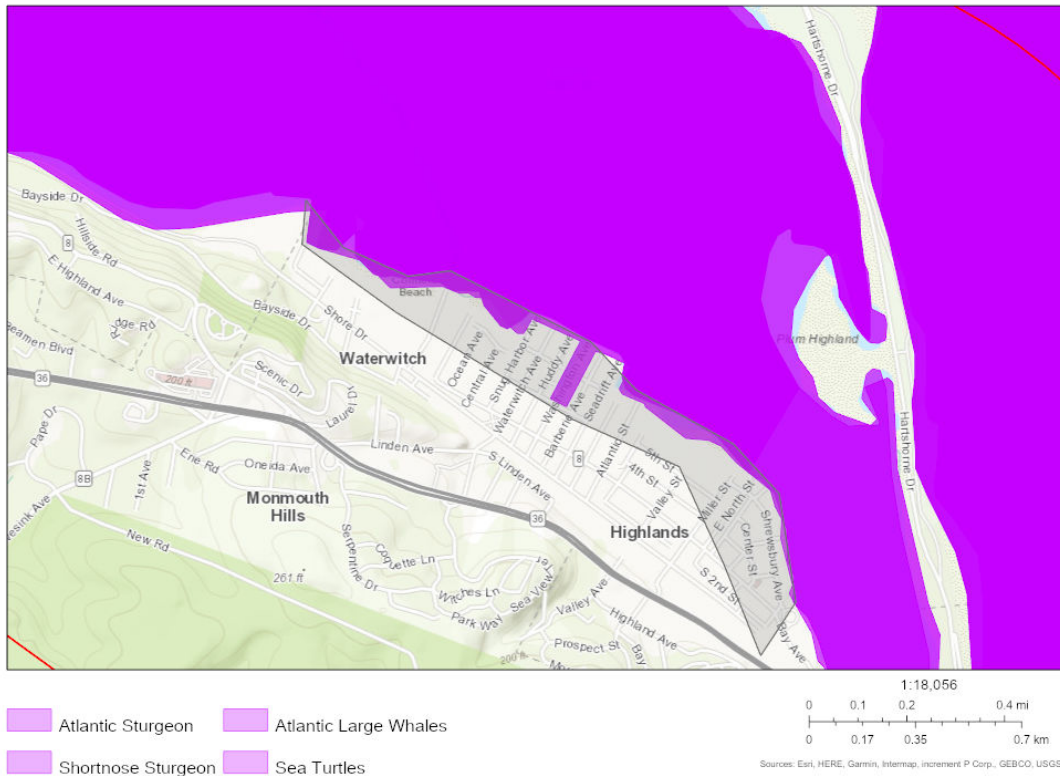
7. The seventh part of the paper discusses the role of the economy in the United States. It is argued that the economy has a responsibility to protect the rights of its citizens and to promote the general welfare. The author points out that the economy has a long history of intervention in the lives of its citizens, and that it is important to understand the reasons for this intervention.

8. The eighth part of the paper discusses the role of the environment in the United States. It is argued that the environment has a responsibility to protect the rights of its citizens and to promote the general welfare. The author points out that the environment has a long history of intervention in the lives of its citizens, and that it is important to understand the reasons for this intervention.

## Area of Interest (AOI) Information

Area : 3,967.6 acres

Oct 23 2019 17:07:27 Eastern Daylight Time



Summary

| Name                        | Count | Area(acres) | Length(mi) |
|-----------------------------|-------|-------------|------------|
| Atlantic Sturgeon           | 2     | 4,264.18    | N/A        |
| Shortnose Sturgeon          | 1     | 2,132.09    | N/A        |
| Atlantic Salmon             | 0     | 0           | N/A        |
| Sea Turtles                 | 4     | 8,716.84    | N/A        |
| Atlantic Large Whales       | 5     | 9,445.63    | N/A        |
| In or Near Critical Habitat | 0     | 0           | N/A        |

Atlantic Sturgeon

| # | Feature ID      | Species           | Life Stage | Behavior             | Zone | From  | Until | From (2) | Until (2) | Area(acres ) |
|---|-----------------|-------------------|------------|----------------------|------|-------|-------|----------|-----------|--------------|
| 1 | ANS_C50_SUB_MAF | Atlantic sturgeon | Subadult   | Migrating & Foraging | N/A  | 01/01 | 12/31 | N/A      | N/A       | 2,132.09     |
| 2 | ANS_C50_ADU_MAF | Atlantic sturgeon | Adult      | Migrating & Foraging | N/A  | 01/01 | 12/31 | N/A      | N/A       | 2,132.09     |

Shortnose Sturgeon

| # | Feature ID      | Species            | Life Stage | Behavior             | Zone | From  | Until | From (2) | Until (2) | Area(acres ) |
|---|-----------------|--------------------|------------|----------------------|------|-------|-------|----------|-----------|--------------|
| 1 | SNS_C50_ADU_MAF | Shortnose sturgeon | Adult      | Migrating & Foraging | N/A  | 04/01 | 11/30 | N/A      | N/A       | 2,132.09     |

Sea Turtles

| # | Feature ID      | Species                  | Life Stage           | Behavior             | Zone                                           | From | Until | From (2) | Until (2) | Area(acres ) |
|---|-----------------|--------------------------|----------------------|----------------------|------------------------------------------------|------|-------|----------|-----------|--------------|
| 1 | LTR_STS_AJV_MAF | Leatherback sea turtle   | Adults and juveniles | Migrating & Foraging | Massachusetts (S of Cape Cod) through Virginia | 5/1  | 11/30 | No Data  | No Data   | 2,179.21     |
| 2 | LOG_STS_AJV_MAF | Loggerhead sea turtle    | Adults and juveniles | Migrating & Foraging | Massachusetts (S of Cape Cod) through Virginia | 5/1  | 11/30 | No Data  | No Data   | 2,179.21     |
| 3 | KMP_STS_AJV_MAF | Kemp's ridley sea turtle | Adults and juveniles | Migrating & Foraging | Massachusetts (S of Cape Cod) through Virginia | 5/1  | 11/30 | No Data  | No Data   | 2,179.21     |
| 4 | GRN_STS_AJV_MAF | Green sea turtle         | Adults and juveniles | Migrating & Foraging | Massachusetts (S of Cape Cod) through Virginia | 5/1  | 11/30 | No Data  | No Data   | 2,179.21     |

Atlantic Large Whales

| # | Feature ID      | Species                    | Life Stage           | Behavior      | Zone                              | From | Until | From (2)       | Until (2)      | Area(aces ) |
|---|-----------------|----------------------------|----------------------|---------------|-----------------------------------|------|-------|----------------|----------------|-------------|
| 1 | RIT_WRS_AJV_MIG | North Atlantic right whale | Adults and juveniles | Migrating     | Mid-Atlantic (Cape Cod, MA to VA) | 1/1  | 12/31 | <i>No Data</i> | <i>No Data</i> | 1,889.13    |
| 2 | FIN_WFS_AJV_MIG | Fin whale                  | Adults and juveniles | Migrating     | Mid-Atlantic (Cape Cod, MA to VA) | 1/1  | 12/31 | <i>No Data</i> | <i>No Data</i> | 1,889.13    |
| 3 | FIN_WFS_AJV_WIN | Fin whale                  | Adults and juveniles | Overwintering | Mid-Atlantic (Cape Cod, MA to VA) | 11/1 | 1/31  | <i>No Data</i> | <i>No Data</i> | 1,889.13    |
| 4 | FIN_WFS_AJV_FOR | Fin whale                  | Adults and juveniles | Foraging      | Mid-Atlantic (Cape Cod, MA to VA) | 1/1  | 12/31 | <i>No Data</i> | <i>No Data</i> | 1,889.13    |
| 5 | FIN_WFS_ADU_CLV | Fin whale                  | Adult                | Calving       | Mid-Atlantic (Cape Cod, MA to VA) | 10/1 | 1/31  |                |                | 1,889.13    |

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.