



**US Army Corps  
of Engineers®**  
New York District

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# **NEW YORK AND NEW JERSEY HARBOR AND TRIBUTARIES COASTAL STORM RISK MANAGEMENT STUDY**

## **INTEGRATED FEASIBILITY REPORT & TIER 1 ENVIRONMENTAL IMPACT STATEMENT**

### **APPENDIX A4: COASTAL ZONE MANAGEMENT ACT**

#### **Draft Tier 1**

**September 2022**

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# **1 Introduction**

## **1.1 Authority and Purpose**

The U.S. Army Corps of Engineers (USACE), New York District (District), has prepared this Tier 1 Assessment to evaluate consistency with the coastal zone management policies for the New York and New Jersey Harbor and Tributaries Coastal Storm Risk Management Study (NYNJHAT study). This study was authorized as a result of the findings in the January 2015, USACE North Atlantic Coast Comprehensive Study (NACCS) which identified high-risk areas on the Atlantic Coast for warranting further investigation of flood and coastal storm risk management solutions including the NYNJHAT study. In February 2019, a NYNJHAT Feasibility Study Interim Report (Interim Report) was completed to document existing information and assumptions about the future, and to identify knowledge gaps that warranted further investigation because of their potential to affect plan selection. The Interim Report states the impacts from Hurricane Sandy highlighted the national need for a comprehensive and collaborative evaluation to reduce risk to vulnerable populations within the North Atlantic region.

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. 1451 et seq.) was enacted by Congress to balance the competing demands of growth and development with the need to protect coastal resources. Its stated purpose is to, "...preserve, protect, develop, and, where possible to restore or enhance, the resources of the nation's coastal zone...". The primary means of achieving this balance is through coastal zone management programs adopted by the states and designed to regulate land use activities that could affect coastal waters. The CZMA offers incentives to encourage the coastal states and territories to exercise their full authority over coastal areas through development of coastal zone management programs, consistent with the minimum federal standards. The Coastal Zone Act Reauthorization Amendments of 1990 strengthened the CZMA by requiring the state programs to focus on controlling land use activities, and on the cumulative effect of activities in coastal zones.

The National Oceanic and Atmospheric Administration (NOAA) maintains federally mapped CZMA boundaries, the New York Department of State (DOS) Office of Planning and Management maintains New York State (NYS) mapped CZMA boundaries present within New York State, and the New Jersey (NJ) Department of Environmental Protection maintains NJ mapped CZMA boundaries. NJ CZMA includes land regulated under the following regulations, the Coastal Area Facility Review Act (CAFRA), the Waterfront Development Law, the Hackensack Meadowlands Reclamation and Development Act, and the Wetlands Act of 1970. NJ's coastal zone encompasses tidally influenced municipalities under the Waterfront Development Law, and non-tidal waters, waterfronts, and on land areas, including the Hudson River (HR) from the interstate border with NY and related tidal waters, south to the Raritan Bay. The CAFRA areas are located from Highlands Beach south to Long Branch Beach.

The purpose of this CZMA appendix is to: (1) present the District's consistency determination, pursuant to 15 CFR Part 930 Subpart C, regarding the consistency of the activity with the NYS Coastal

Management Plan (NYSCMP) including New York City (NYC) Waterfront Revitalization Program (WRP), and NJ CMP; (2) enable NY State and the State of NJ to consider the effects of the NYNJHAT study Tentatively Selected Plan (TSP) on the land and water uses and natural resources of its coastal area; and (3) to provide information that states of NY and NJ require to concur with the USACE New York District's Consistency Determination pursuant to 15 CFR Part 930 Subpart C.

This draft document focuses on the structural measures of the TSP. Project structural measures include combinations of levees, storm surge barriers (SSBs), tide gates, floodwalls, seawalls, elevated promenades, revetments, berms, bulkheads, pedestrian/vehicular gates, road raising and non-structural measures including preservation. It is important to note, that the TSP will have associated impacts and benefits from natural and nature-based features (NNBFs). At this time, NNBFs are still being evaluated and locations are being determined. Potential impacts and benefits from NNBFs will be included in the Final Integrated Feasibility Report/Tier 1 EIS.

### **1.1.1 Tier 1 Impact Analysis**

The National Environmental Policy Act (NEPA) of 1969 requires Federal agencies, including USACE, to consider the potential environmental impacts of their proposed actions and any reasonable alternatives before undertaking a major Federal action, as defined by 40 CFR 1508.18.

To evaluate potential environmental impacts, USACE has prepared an Integrated Feasibility Report/Tier 1 EIS. The EIS will be conducted in two stages or tiers. Tiering, which is defined in 40 CFR 1508.28, is a means of making the environmental review process more efficient by allowing parties to "eliminate repetitive discussions of the same issues and to focus on the actual issues suitable for decision at each level of environmental review" (40 CFR 1502.20).

The Tier 1 EIS involves technical analysis completed on a broad scale and is therefore an effective method for identifying existing and future conditions and understanding the comprehensive effects of the project. It provides the groundwork for future project-level environmental and technical studies and modeling and agency consultation.

### **1.1.2 Modeling of Impacts for Final Integrated Report/1 Analysis**

USACE Engineer Research and Development Center (ERDC) has developed the New York Bight Ecological Model (NYBEM) of the NYNJHAT Study Area. The model is presented in this Integrated Feasibility Report/Tier 1 EIS for Agency and public review of the model development and the preliminary modeling results of the NYNJHAT Study Alternatives. Feedback received on the NYBEM will inform the final version of the model and the results of its application to the NYNJHAT Study Area will be presented in the Final Integrated Feasibility Report/Tier 1 EIS.

The NYBEM focuses on tidally influenced ecosystems within the project boundary to quantify and evaluate potential Project impacts on aquatic resources. The USACE ERDC is also developing an

Adaptive Hydraulics Model (AdH Model) to evaluate potential physical changes to flow, tidal range, and water elevations in both storm and non-storm conditions, as well as sediment budget. Currently, the Draft AdH Model has been incorporated into the Draft Integrated Feasibility Report/Tier 1 EIS; however, the Final Integrated Feasibility Report/Tier 1 EIS will utilize the information gained from the NYBEM and AdH modeling efforts, as well as project design, to determine potential impacts from the SSB (open and closed), including, but not limited to, the following physical and biological resources:

- Bathymetry
- Sediment and Soil Quality and Type
- Tides
- Currents and Circulation
- Salinity
- Dissolved Oxygen
- Turbidity
- Sea Level Change/Climate Change
- Flooding
- Wetlands and water resources

Based on additional analysis completed for Tier 2, a supplemental CZMA evaluation may be developed, as required.

## **1.2 Project Background**

Storms have historically severely impacted the NY/NJ Harbor region, including Hurricane Sandy most recently, causing loss of life and extensive economic damages

In 2012, Hurricane Sandy caused considerable loss of life, extensive damage to property, and massive disruption to the North Atlantic Coast. The effects of this storm were particularly severe because of its tremendous size and the timing of its landfall during high tide. Twenty-six states were impacted by Hurricane Sandy, and disaster declarations were issued in 13 states. NY and NJ were the most severely impacted states, with the greatest damage and most fatalities in the NY Metropolitan Area. For example, a storm surge of 12.65 feet above normal high tide was reported at Kings Point on the western end of Long Island Sound and 9.4 feet at the Battery on the southern tip of Manhattan. Flood depths due to the storm tide were as much as nine feet in Manhattan, Staten Island, and other low-lying areas within the NY Metropolitan Area. The storm exposed vulnerabilities associated with inadequate coastal storm risk management (CSRM) measures and lack of defense to critical transportation and energy infrastructure.

The January 2015, USACE North Atlantic Coast Comprehensive Study (NACCS) identified high-risk areas on the Atlantic Coast for warranting further investigation of flood risk management solutions. In February 2019, a NYNJHAT Feasibility Study Interim Report was completed to document existing information and assumptions about the future conditions, and to identify knowledge gaps that warranted

further investigation because of their potential to affect plan selection. The Interim Report states the impacts from Hurricane Sandy highlighted the national need for a comprehensive and collaborative evaluation to reduce risk to vulnerable populations within the North Atlantic region. To address the impacts and concerns associated with devastating storms, the USACE New York District has proposed measures to manage coastal storm risk in the NYNJ Harbor and its tributaries.

In response, the USACE New York District is investigating measures to manage future flood and coastal storm risk in ways that support the long-term resilience and sustainability of the coastal ecosystem and surrounding communities, and reduce the economic costs and risks associated with flood and storm events for the NYNJHAT Study Area (USACE 2019). The alternative concepts proposed would help the region manage flood risk that is expected to be exacerbated by relative sea level rise.

### **1.3 Coordination and Consultation History**

Coordination with stakeholders has been a critical component of the NYNJHAT study. Since early 2017, the USACE New York District has held many workshops and meetings with Cooperating Agencies and other stakeholders to share information on the study scope and purpose and formulation of alternatives, and to exchange ideas and information on natural and marine resources within the Study Area.

The USACE New York District announced the preparation of an Integrated Feasibility Report/Tiered EIS for the NYNJHAT study feasibility in the February 13, 2018 Federal Register pursuant to the requirements of Section 102(2)(C) of NEPA. The NEPA scoping period initially spanned 45 days from July 6 – August 20, 2018, but was extended to 120 days due to numerous requests from the public. The USACE New York District held a total of nine public scoping meetings during the public scoping period. In 2019, four NYBEM workshops were held on January 3, March 11, June 6, and November 14 to help inform the NYBEM model set up to be used as a tool for assessing some direct and indirect effects of agency actions on regional ecosystems including the NYNJHAT study, among others.

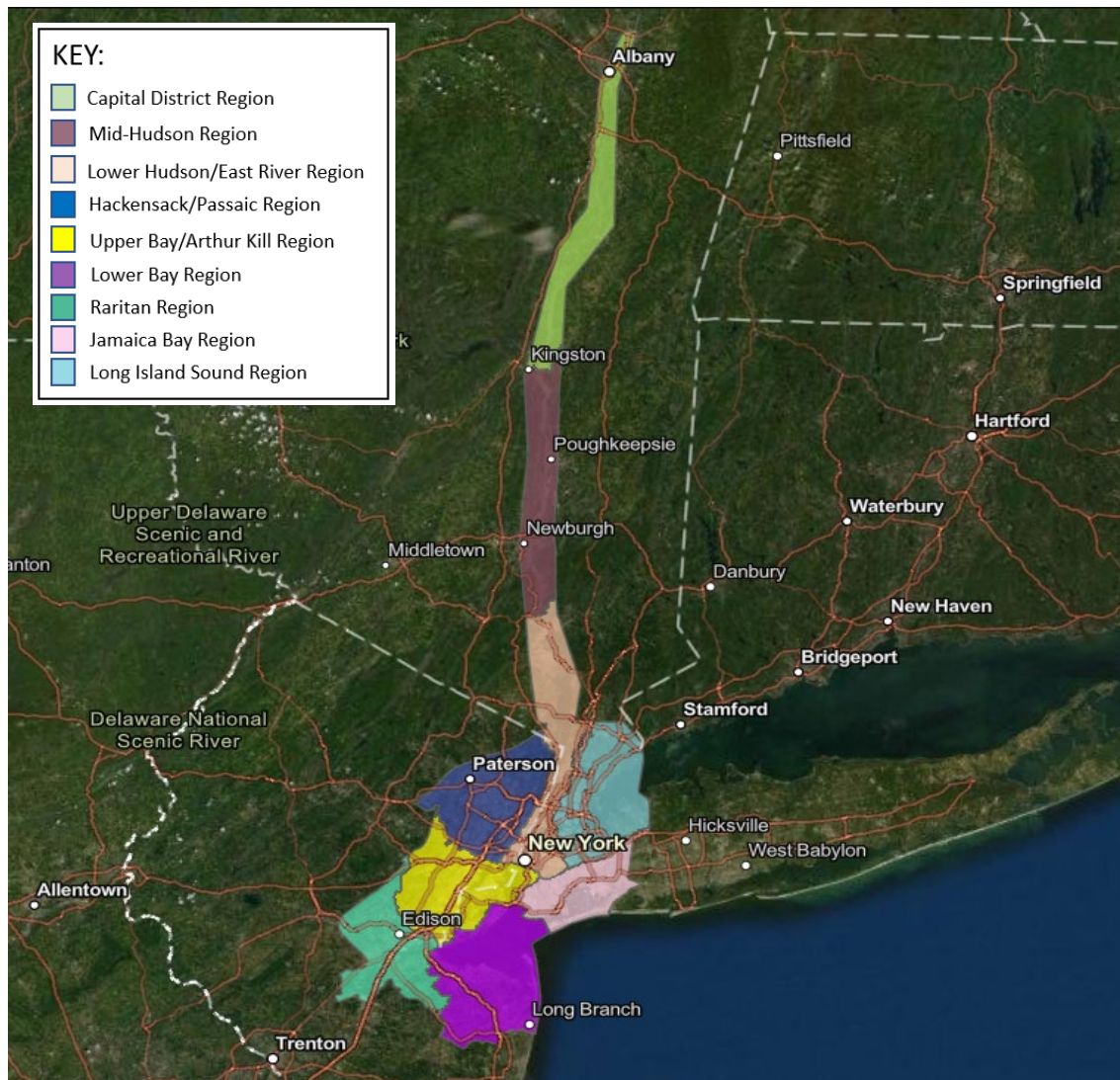
In February 2020, the NYNJHAT study paused until October 2021 due to a lack of Federal funding. Following study resumption, the USACE New York District held several Cooperating Agency meetings to facilitate open communication, share study progress, status updates, and data as it became available, including an Engineering presentation on the study alternatives, a presentation on the TSP, and a presentation on the NYBEM development progress.



## **2 Study Area**

The Study Area for this consultation includes the NY Metropolitan Area, including New York City (NYC) which is the most populous and densely populated city in the United States, and five of the six largest cities in NJ by population. The shorelines of some of the NYNJHAT Study Area is characterized by low elevation areas, developed with residential and commercial infrastructure, and is subject to tidal flooding during storms. The Study Area covers more than 2,150 square miles and comprises parts of 25 counties in NJ and NY, including Bergen, Passaic, Morris, Essex, Hudson, Union, Somerset, Middlesex, and Monmouth Counties in NJ; and Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, Rockland, Bronx, New York, Queens, Kings, Richmond, and Nassau Counties in NY.

The NYNJHAT Study Area for the Tier 1 EIS includes NY and NJ Harbor and tidally affected tributaries encompassing all of NYC, the Hudson River (HR) to Troy, NY; the lower Passaic, Hackensack, Rahway, and Raritan Rivers; and the Upper and Lower Bays of NY Harbor, Newark, Jamaica, Raritan and Sandy Hook Bays; the Kill Van Kull, Arthur Kill and East River tidal straits; and western Long Island Sound. The Study Area and description of existing environment have been separated into nine regions based on the hydrologic unit codes (HUCs) from the Watershed Boundary Dataset of the U.S. Geological Survey (USGS). Figure 2-1 provides an overview of the NYNJHAT study Planning Regions. The Planning Regions are described in Section 4.



**Figure 2-1. Overview of USACE New York-New Jersey Harbor and Tributaries Study Area and Planning Regions**

### **3 Proposed Action**

The Tier 1 EIS describes all alternatives evaluated for this NEPA study. This appendix evaluates only the project measures incorporated into the TSP.

#### **3.1 Tentatively Selected Plan**

The TSP is Alternative 3B – Multi-basin SSBs With Shore-Based Measures. The TSP includes a combination of coastal storm risk management (CSRM) measures that function as a system to manage the risk of coastal storm damage in the New York Metropolitan Area, including a combination of shore-based and in-water measures. These measures are located within the Hackensack/Passaic, Upper Bay/Arthur Kill, Lower Hudson/East River, Long Island Sound and Jamaica Bay Planning Regions. The TSP measures include storm surge barriers (SSBs), Shore-Based Measures (SBMs), complementary Induced Flooding-Mitigation Features (IFFs) and Risk Reduction Features (RRFs) as well as nonstructural measures and natural and nature-based features described in more detail as follows:

The TSP includes SSBs and complementary SBMs at Jamaica Bay, Arthur Kill, Kill Van Kull, Gowanus Canal, Newtown Creek, Flushing Creek, Sheepshead Bay, Gerritsen Creek, Hackensack River, Head of Bay, Old Howard Beach East, and Old Howard Beach West. The SBMs would provide land-based CSRM and include floodwalls, levees, elevated promenades, buried seawalls/dunes, revetments, berms, bulkheads, pedestrian/vehicular gates, and road raisings. Ringwalls and SBMs will also be considered under the TSP, to be further refined for the Final Integrated FR/Tier 1 EIS.

RRFs would provide CSRM in areas behind SSBs that may experience high frequency flooding when the barriers are not operated.

IFFs would provide CSRM in areas in front of SSBs that may experience induced flooding due to operation of the SSBs.

Nonstructural measures to be included in the TSP may include structure elevations and floodproofing. Currently, conceptual nonstructural measure locations are located throughout the Study area; however, nonstructural measures and locations will be further refined for the Final Integrated FR/Tier 1 EIS.

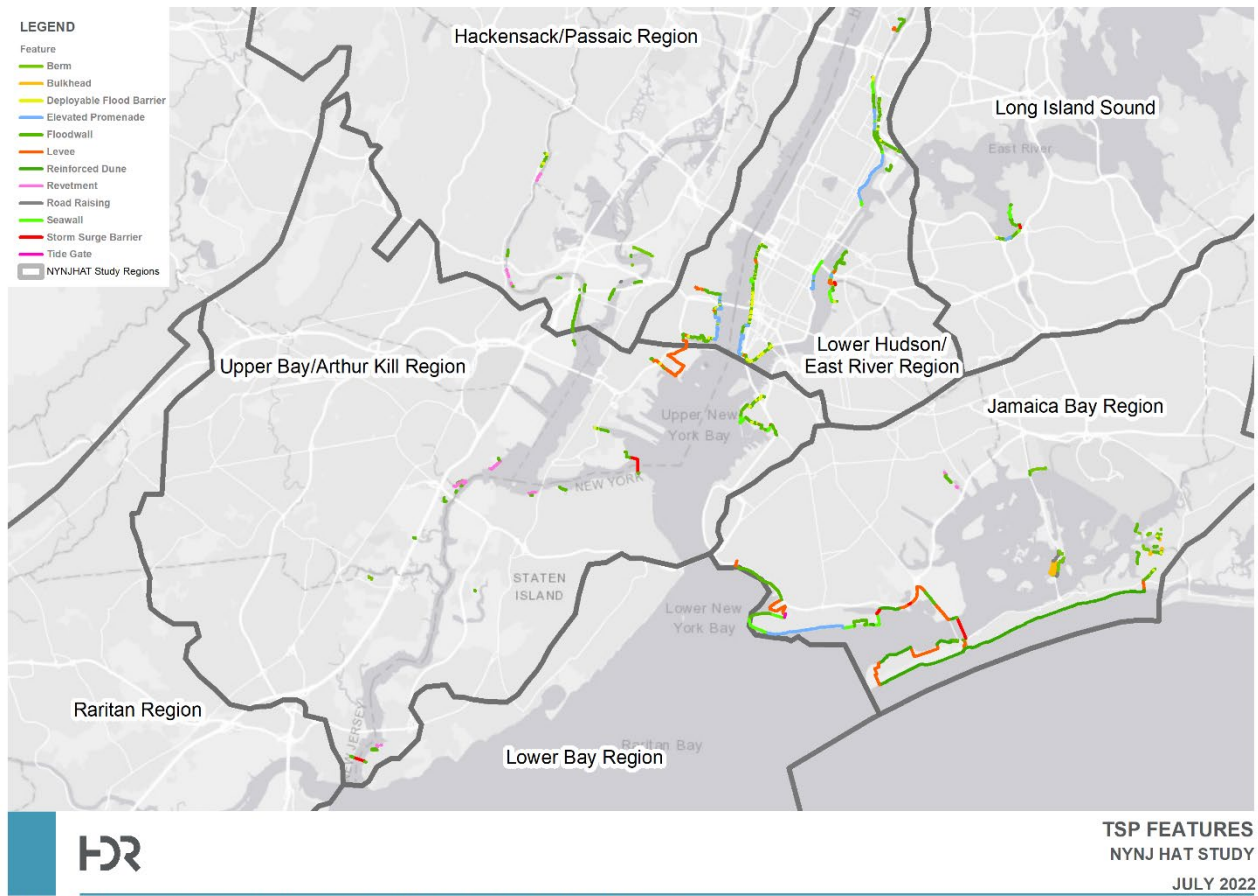
Natural and nature-based features (NNBF) to be included in the TSP consist primarily of natural features such as wetlands and living shorelines that may provide both CSRM and ecological enhancement. Specific NNBF types and locations will be further refined for the Final Integrated FR/Tier 1 EIS. At this time, it is anticipated they will be located in areas that experience high frequency coastal flooding.

While the TSP will improve coastal flood risks in the project area, it will not totally eliminate flood risks; therefore, residual risk for flooding still remains a threat to life and property. It is essential that flood risk be proactively communicated to residents in accessible and thoughtful ways.

This assessment only includes structural measures of the TSP. Structural measures included in the TSP are show in Table 1 by Planning Region, and on Figures 2-2 and 2-3.



Figure 3-2. NY/NJHAT Study Tentatively Selected Plan



**Figure 3-2. Overview of NYNJHAT Study Measures Included in the TSP**

**Table 3.1: Structural measures included in the TSP, by Planning Region.**

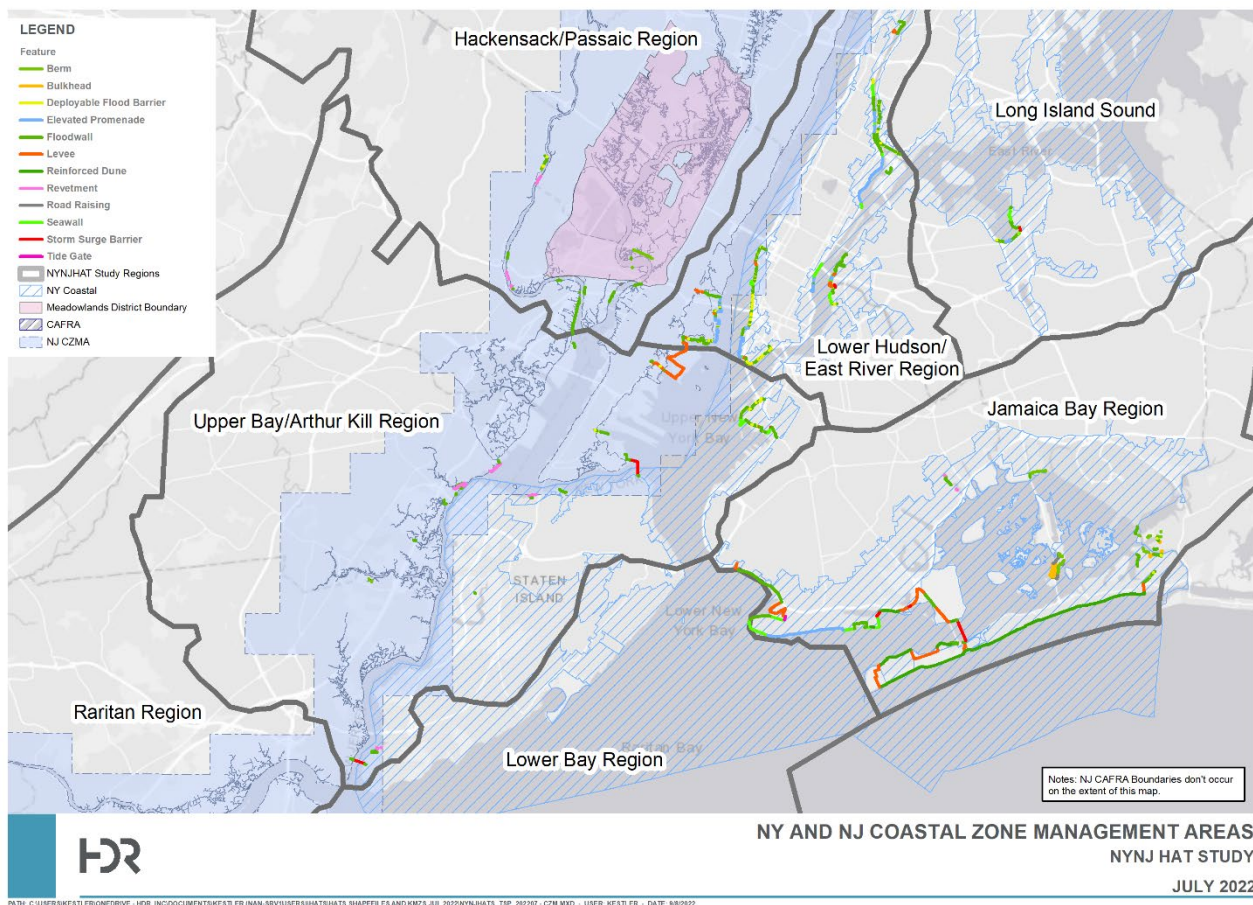
Planning Region	Storm Surge Barriers	Tide Gates	Floodwalls	Levees	Elevated Promenades	Buried Seawalls/Sand Dunes	Seawalls	Revetments	Berms	Bulkheads	Pedestrian/Vehicular Gates	Road Raising
Capital District												
Mid-Hudson												
Lower Hudson/East River	●		●	●	●		●				●	
Upper Bay/Arthur Kill	●	●	●	●			●	●	●		●	
Lower Bay												
Hackensack/Passaic			●					●	●		●	●
Raritan Region												
Long Island Sound	●		●		●		●					
Jamaica Bay	●	●	●	●	●	●	●	●	●	●	●	●

● = Included in the Planning Region



## 4 Existing Conditions

The Study Area and description of existing environment have been separated into nine Planning Regions based on the hydrologic unit codes (HUCs) from the Watershed Boundary Dataset of the U.S. Geological Survey (USGS). Figure 3-2 provides an overview of the NYNJHAT Study Area. The following sections describe the Planning Regions in the NYNJHAT study. Figure 4-1 shows the NYNJHAT study TSP, the NY Coastal Area and the NJ CZMA areas, including the tidally influenced municipalities subject to CAFRA. The TSP footprint is not located within the NJ Coastal Area Facility Review Act (CAFRA) boundaries .



**Figure 4-1. NYNJHAT Study Tentatively Selected Plan (TSP) showing NY Coastal Area and NJ Coastal Zone Management Act Areas (no NJ CAFRA boundaries are located in TSP area)**

## 4.1 Planning Regions

Existing conditions for six of the nine NYNJHAT study Planning Regions are discussed below, as they contain measures included in the TSP or may have impacts related to construction or operation and maintenance of the TSP.

### 4.1.1 Upper Bay/ Arthur Kill Region

The Upper Bay/Arthur Kill Region (Figure 2-1) is based on the 10-digit HUCs for the Arthur Kill-Upper Bay watershed and the Rahway River watershed, from the Watershed Boundary Dataset (USGS 2018). This region lies between the mouth of the HR and the Lower Raritan River and includes portions of Richmond and Kings counties in NY, as well as Governors Island, New York County. This region also includes portions of Hudson, Essex, Union, and Middlesex counties in NJ. The Upper Bay is comprised predominantly of deep water (67 percent is >25 ft [7 m] deep). None of the features in this region in NJ are within the CAFRA area, but all of the features in this region are at least partially or entirely in the Waterfront Development Area or in tidal and non-tidal waters, waterfronts, or on land areas that are regulated under the CZMA. All of the features in this region in NY are within the NY Coastal Area and consist of a SSB, floodwalls, seawalls and bulkheads. A detailed description of the TSP and measures included within are in Section 6.1.

The Arthur Kill is a tidal strait that connects to Upper Bay via the Kill Van Kull (another tidal strait) and mixes waters with Newark Bay. The Arthur Kill also connects Newark Bay with Raritan Bay. Important tributaries to the Arthur Kill include the Rahway and Elizabeth Rivers, Old Place Creek, Woodbridge Creek, and Fresh Kills Creek (USACE 2004a). The Upper Bay/Arthur Kill Region has a dynamic hydrology due to the variation in tidal velocity, amount of freshwater flow, and bathymetry among the connecting bays (USACE 1999).

These waterways exist within a heavily industrialized and developed corridor. The NJ side of the Arthur Kill is industrialized; large areas of wetlands are intermingled with industrial facilities on the NY side. The Arthur Kill and Kill Van Kull have deepwater navigation channels that allow transport of cargo into and out of the Ports of NY and NJ. While the Arthur Kill is highly industrialized, approximately 55 percent of the shoreline is natural mudflats and marshes.

The Gowanus Canal is a prominent site within the Upper Bay Planning Region. The canal is a 100-foot-wide, 1.8-mile-long canal in a highly developed section of Brooklyn, NY that has become one of the most contaminated water bodies in the country. Contaminants found in high levels include polycyclic aromatic hydrocarbons, polychlorinated biphenyls, mercury, lead, and copper. In 2010, this site was added to the U.S. Environmental Protection Agency (USEPA) Superfund List. A plan has been put in place to dredge the contaminated soil and then cap the area (USEPA 2018).

Shoreline habitat can be found in the form of wetlands on the west side of Liberty Island. Remnant mudflats are located along the NJ coastline (USACE 2000; USACE 1999). Sandy shallows within the



Bay Ridge Flats that have been significantly reduced in size over time by dredging are located along the eastern edge of the bay. These flats provide some habitat to many species of young fishes. The Upper Bay is still a critical component of the Study Area because it serves as a migratory pathway for many fish species, providing access to important feeding, overwintering, and nursery areas (USACE 2004a).

#### **4.1.2 Lower Bay Region**

The Lower Bay Region (Figure 2-1) is based on the 10-digit HUCs for the Raritan Bay-Lower Bay watershed and the Navesink River-Shrewsbury River watershed, and well as the 8-digit HUC for the Mullica-Toms subbasin, from the Watershed Boundary Dataset (USGS 2018). This includes a portion of Richmond County in New York, and portions of Middlesex and Monmouth counties in New Jersey. The population in this region is approximately 565,000.

Major waterbodies in this area provide a combination of marine and estuarine habitats that support diverse ecological communities (USACE 2004a) and are hydrologically connected to the Upper Bay and Hudson River, Jamaica Bay, and the Atlantic Ocean. There are major estuarine wetland systems throughout the region. The Sandy Hook peninsula makes up one unit of the National Park Service (NPS)'s Gateway National Recreation Area (GNRA). The Staten Island Unit of GNRA consists of Great Kills Park, Miller Field, and Fort Wadsworth (NPS 2018). GNRA features important sections of estuarine wetland habitat and freshwater forested/shrub wetland habitat (USFWS 2018). Sandy Hook is a nine-mile narrow sand spit that has a fairly extensive vegetated dune system and two distinct maritime forest communities that encompass 285 acres (RPA, 2003).

The uplands along the shoreline of the Lower Bay are important as migratory and wintering stopover habitat for migratory perching birds and raptors, as well as an important staging area for many species of waterfowl on the Atlantic Flyway (USACE, 2016; USACE, 2017). Beach habitat provides foraging areas for waterfowl and shorebirds (RPA 2003). The Sandy Hook Unit of GNRA provides habitat for roughly 60 percent of the New Jersey piping plover (federally threatened, New York State- and New Jersey State-endangered) population. This region also contains valuable fish and shellfish habitat (RPA 2003). This region is heavily utilized for recreation. There are many maintained beaches with public access on the New Jersey and Staten Island shorelines. Point Comfort beach, located in Keansburg, New Jersey, includes an amusement park/waterpark with a walkway along the beach. Many areas, both on- and off-shore, are designated for fishing. Recreational species include weakfish, bluefish, winter flounder, summer flounder, and striped bass.

#### **4.1.3 Jamaica Bay Region**

The JB Region (Figure 2-1) is based on the 8-digit HUCs for the Southern Long Island subbasin from the Watershed Boundary Dataset (USGS 2018). This includes a portion of Kings, Nassau, and Queens Counties in NY.

The Region is heavily utilized for recreation. There are many maintained beaches with public access along the Rockaway Peninsula through Fort Tilden and Jacob Riis Parks. Beach attendance data provided by the Department of Parks and Recreation (DPR), NYC, indicates that approximately 7.7 million beach visits per year occur on the Rockaway Peninsula at Rockaway Beach (USACE2018). JB is a popular destination for recreational boaters, kayakers, kite surfers, hikers, and birders. Coney Island, on the south shore of Long Island in Brooklyn, includes an amusement park with a boardwalk along the beach. Many areas, both on- and off-shore, are designated for fishing. Recreational species include bluefish, tautog, weakfish, black sea bass, winter flounder, summer flounder, and striped bass (USACE 2017).

JB to the high tide line is designated as a NY State Department of Environmental Conservation (NYSDEC) Critical Area and JB and Breezy Point have been designated as Significant Coastal Fish and Wildlife Habitats by the NYSDEC. JB was also designated as a special natural waterfront areas by NY City's Department of City Planning. All of the features in the JB Region included in the TSP are within the NY Coastal Area.

#### **4.1.4 Hackensack/Passaic Region**

The Hackensack/Passaic River Region (Figure 2-1) is based on the 8-digit HUCs for the Hackensack-Passaic subbasin from the Watershed Boundary Dataset (USGS 2018). This includes portions of Bergen, Passaic, Essex, and Hudson counties in NJ, as well as a small part of Rockland County in NY. The population in this region is approximately 2,067,000.

This watershed is connected to Upper Bay and Lower Bay via Kill Van Kull and Arthur Kill, respectively. An important and ecologically valuable habitat in this region is the NJ Hackensack Meadowlands which includes the largest remaining brackish wetland complex in the Study Area, measuring approximately 8,400 acres (USACE 2004b). Although degraded, the Meadowlands and surrounding areas in this region represent significant open spaces that continue to provide ecosystem functions, including flood storage and fish/wildlife habitat, and offer a variety of potential restoration opportunities (USFWS 1997).

There is public access to the water in this region, the majority of which is found along the Hackensack and Passaic River and in the Hackensack Meadowlands overlooking the wetlands. There are a few public access points scattered around the east waterfront of Newark Bay in Bayonne and Jersey City (USACE 2017). None of the features included in the TSP that area located in this Region are within the NJ CAFRA area. All of the features in this region are at least partially or entirely in the Waterfront Development Area, tidal and non-tidal waters, waterfronts, on land areas, or in the NJ Meadowlands District, which are all regulated under the NJ CZMA.

#### **4.1.5 Long Island Sound Region**

The Long Island Sound Region (Figure 2-1) is based on the 8-digit HUCs for the Bronx, Saugatus, Long Island Sound, and Northern Long Island subbasins from the Watershed Boundary Dataset (USGS 2018). This region contains sections of Bronx County and Queens County, as well as portions of Westchester and Nassau Counties. The population in this region is approximately 3,032,000. All of the features in this Region included in the TSP are within the NY Coastal Area.

The Long Island Sound is connected to the Upper Bay via the East River, a tidal strait. Tributaries of the Sound in this region include the Bronx River, Flushing Creek, Westchester Creek, Hutchinson River, Mamaroneck River, and Byram River. There are major estuarine wetlands in Little Neck Bay, sections of the coastline in Sands Point on Long Island, Hen Island and Milton Harbor, Mamaroneck River and its tributaries, and Pelham Bay Park (USFWS 2018). The 437-acre Thomas Pell Wildlife Refuge is also within Pelham Bay Park on the Bronx River. A portion of this region has been designated as the Upper East River-Long Island Sound Special Natural Waterfront Area (SNWA) by NYC due to the extensive marsh systems in the area, such as those in Alley Pond Park, and islands that support significant populations of nesting shorebirds (NYC DCP 2011).

This region is heavily utilized for recreation. Orchard Beach, a part of Pelham Bay Park in The Bronx, is a popular beach destination. There are also several maintained beaches with public access in Nassau and Westchester counties. Rye Playland Beach in Westchester County includes an amusement park with a boardwalk along the beach. Fishing also occurs from vessels and the shorelines of this area. In Western Long Island, bays such as Little Neck, Flushing, Manhasset, and Hempstead bays are important recreational fishing areas (USACE 2000). Species sought include striped bass, bluefish, weakfish, scup, black sea bass, tautog, summer flounder and winter flounder.

#### **4.1.6 Lower Hudson/East River Region**

The Lower HR/East River Region (Figure 2-1) is based on the 8-digit HUCs for the Lower Hudson subbasin in the Watershed Boundary Dataset (USGS 2018). This region extends from the Upper Bay to the Bear Mountain Bridge (also known as the Purple Heart Veterans Memorial Bridge), and includes all of NY County, as well as portions of Kings, Queens, Bronx, Rockland, and Westchester Counties in NY and portions of Bergen and Hudson Counties in NJ.

Recreational and commercial boating is prevalent in the Lower HR. There is a public beach at Croton Point Park. Strong semi-diurnal tides make the HR one of the few major tidal rivers of the North Atlantic coast (USFWS 1997). The water level of the HR rises and falls, accompanied by changes in flow direction, based on the ocean's tide from the Upper Bay to Troy, NY. Salt water from the ocean remains in the mix between the Governor Mario M. Cuomo Bridge (formerly known as the Tappan Zee Bridge) and Poughkeepsie, depending on the time of year and drought conditions (NY State Department of Environmental Conservation [NYSDEC] 2014).

Within the Lower Hudson/East River Planning Region, the east side of the HR from Yonkers to the town of Peekskill is designated as state Critical Environmental Area. All of the features in this Region in the State of NY included in the TSP are within the NY Coastal Area. All of the features in this region in NJ are at least partially or entirely within the Waterfront Development Area, or in tidal and non-tidal waters, waterfronts, or on land areas regulated under the CZMA.

**APPENDIX B 1:**  
**NEW YORK STATE COASTAL ZONE MANAGEMENT POLICIES**

## 5 New York State Coastal Zone Management Policies

The State of NY currently administers its federally approved coastal zone program (N.Y. Executive Law §910 et seq. [Consol. 1996]) through the NY State Department of State (NYSDOS). Pursuant to the Federal Coastal Zone Management Act (CMZA), NY State has defined its coastal zone boundaries and the policies to be utilized to evaluate projects occurring within the designated zones. In 1981, NY State adopted the Waterfront Revitalization and Coastal Resources Act, creating the NY State Coastal Management Program (CMP). The CMP embodies 44 policy statements supportive of the intent of the CMZA to promote a balance between economic development and coastal resource preservation and optimization. In addition, NYC has established a coastal zone under the Waterfront Revitalization Program (WRP). The WRP includes 10 policy statements applicable to the City's Coastal Zone.

*Table B1-1. NY State CZMA Policies and their Applicability to the TSP within Each Applicable State Planning Region*

Policy	Statement	Planning Region						
		Capital District	Mid-Hudson	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
1	Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational, and other compatible uses.	N/A	N/A	Y	Y	N/A	Y	Y
2	Facilitate the siting of water dependent uses and facilities on or adjacent to coastal waters.	N/A	N/A	Y	Y	N/A	Y	Y
3	Further develop the State's major ports of Albany, Buffalo, NY, Ogdensburg, and Oswego as centers of commerce and industry, and encourage the siting, in these port areas, including those under the jurisdiction of State public authorities, of land use and development which is essential to, or in support of, the waterborne transportation of cargo and people.	N/A	N/A	Y	Y	N/A	Y	Y
4	Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those traditional uses and activities which have provided such areas with their unique maritime identity.	N/A	N/A	Y	Y	N/A	Y	Y
5	Encourage the location of development in areas where public services and facilities essential to such development are adequate.	N/A	N/A	Y	Y	N/A	Y	Y
6	Expedite permit procedures in order to facilitate the siting of development activities at suitable locations.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Policy	Statement	Planning Region						
		Capital District	Mid-Hudson	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
7	Significant coastal fish and wildlife habitats will be protected, preserved, and where practical, restored so as to maintain their viability as habitats.	N/A	N/A	Y	Y	N/A	Y	Y
8	Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bio-accumulate in the food chain, or which cause significant sublethal or lethal effect on those resources.	N/A	N/A	Y	Y	N/A	Y	Y
9	Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks, and developing new resources.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Further develop commercial finfish, shellfish, and crustacean resources in the coastal area by encouraging the construction of new, or improvement of existing onshore commercial fishing facilities, increasing marketing of the State's seafood products, maintaining adequate stocks, and expanding aquaculture facilities.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.	N/A	N/A	Y	Y	N/A	Y	Y
13	The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.	N/A	N/A	Y	Y	N/A	Y	Y
14	Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.	N/A	N/A	Y	Y	N/A	Y	Y
15	Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall	N/A	N/A	Y	Y	N/A	Y	Y

Policy	Statement	Planning Region						
		Capital District	Mid-Hudson	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
	be undertaken in a manner which will not cause an increase in erosion of such land.							
16	Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only where the public benefits outweigh the long term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features	N/A	N/A	Y	Y	N/A	Y	Y
17	Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.	N/A	N/A	Y	Y	N/A	Y	Y
18	To safeguard the vital economic, social and environmental interests of the State and of its citizens, proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the State has established to protect valuable coastal resource areas	N/A	N/A	Y	Y	N/A	Y	Y
19	Protect, maintain, and increase the level and types of access to public water related recreation resources and facilities.	N/A	N/A	Y	Y	N/A	Y	Y
20	Access to the publicly owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly owned shall be provided and it shall be provided in a manner compatible with adjoining uses.	N/A	N/A	Y	Y	N/A	Y	Y
21	Water dependent and water enhanced recreation will be encouraged and facilitated and will be given priority over non-water-related uses along the coast.	N/A	N/A	Y	Y	N/A	Y	Y
22	Development when located adjacent to the shore will provide for water-related recreation whenever such use is compatible with reasonably anticipated demand for such activities and is compatible with the primary purpose of the development.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23	Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the State, its communities, or the Nation.	N/A	N/A	Y	Y	N/A	Y	Y
24	Prevent impairment of scenic resources of statewide significance.	N/A	N/A	Y	Y	N/A	Y	Y

Policy	Statement	Planning Region						
		Capital District	Mid-Hudson	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
25	Protect, restore or enhance natural and man-made resources which are not identified as being of statewide significance, but which contribute to the overall scenic quality of the coastal area.	N/A	N/A	Y	Y	N/A	Y	Y
26	Conserve and protect agricultural lands in the State's coastal area.	N/A	N/A	Y	Y	N/A	Y	Y
27	Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28	Ice management practices shall not interfere with the production of hydroelectric power, damage significant fish and wildlife and their habitats, or increase shoreline erosion or flooding.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29	The development of offshore uses and resources, including renewable energy resources, shall accommodate NY's long-standing ocean and Great Lakes industries, such as commercial and recreational fishing and maritime commerce, and the ecological functions of habitats important to NY.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30	Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to State and National water quality standards.	N/A	N/A	Y	Y	N/A	Y	Y
31	State coastal area policies and management objectives of approved local Waterfront Revitalization Programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already overburdened with contaminants will be recognized as being a development constraint.	N/A	N/A	Y	Y	N/A	Y	Y
32	Encourage the use of alternative or innovative sanitary waste systems in small communities where the costs of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.	N/A	N/A	Y	Y	N/A	Y	Y
33	Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.	N/A	N/A	Y	Y	N/A	Y	Y
34	Discharge of waste materials into coastal waters from vessels subject to State jurisdiction will be limited so as to protect	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Policy	Statement	Planning Region						
		Capital District	Mid-Hudson	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
	significant fish and wildlife habitats, recreational areas and water supply areas.							
35	Dredging and filling in coastal waters and disposal of dredged material will be undertaken in a manner that meets existing State dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.	N/A	N/A	Y	Y	N/A	Y	Y
36	Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37	Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics and eroded soils into coastal waters.	N/A	N/A	Y	Y	N/A	Y	Y
38	The quality and quantity of surface water and groundwater supplies, will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39	The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural land, and scenic resources.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40	Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and shall conform to state water quality standards	N/A	N/A	N/A	N/A	N/A	N/A	N/A
41	Land use or development in the coastal area will not cause national or State air quality standards to be violated.	N/A	N/A	Y	Y	N/A	Y	Y
42	Coastal management policies will be considered if the State reclassifies land areas pursuant to the prevention of significant deterioration regulations of the Federal Clean Air Act.	N/A	N/A	Y	Y	N/A	Y	Y

Policy	Statement	Planning Region						
		Capital District	Mid-Hudson	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
43	Land use or development in the coastal area must not cause the generation of significant amounts of acid rain precursors: nitrates and sulfates.	N/A	N/A	Y	Y	N/A	Y	Y
44	Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.	N/A	N/A	Y	Y	N/A	Y	Y

Notes: Y – policy is applicable to Planning Region and project will be compliant; N – policy is applicable to Planning Region and project will not be compliant; N/A – policy is not applicable to the Planning Region or the proposed NYNJHAT study.

The Hackensack/Passaic and Raritan Planning Regions are not in NY so have not been included in this table.

## 5.1 Development Policies (numbered and italicized)

(1) *Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational, and other compatible uses.*

The TSP is consistent with this policy because it reduces coastal storm risk to waterfront areas from impacts associated with sea level rise, storm surges, and coastal flooding by adding shore-based and in-water features. Therefore, the TSP will help to maintain the existing character of the area for existing and potential future uses. The TSP will protect the environment and human development around JB, the low-lying areas of lower Manhattan as well as coastal resources of Kings, Queens, NY, Richmond, Bronx counties, which will enhance existing and anticipated recreational uses in the future. The Project will stabilize the beachfront as well as offer CSRM to residents and enhance natural resources along the JB perimeter, to further reduce the risk of damage to all waterfront areas (natural and residential areas), that can occur during large storms. Accordingly, the Project is consistent and compatible with the character of the area, will not adversely affect adjacent and upland views, will not cause further deterioration of the shoreline, and will reduce the extent of adverse impacts to the economic base of the community from potential future coastal storms similar to Hurricane Sandy.

(2) *Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.*

The TSP is consistent with this policy because it reduces coastal storm risk to shoreline facilities from impacts associated with sea level rise, storm surges, and coastal flooding by installing shore-based and in-water features. The TSP will physically alter land along the shoreline and under coastal waters, and requires siting of water-dependent uses and facilities along the Atlantic Ocean shorefront, the JB shoreline, along the low-lying areas of Manhattan and the Bronx, as well as coastal resources of Kings, Queens and Richmond counties. The Project will not preempt the reasonably foreseeable development

of water-dependent uses. The Project is designed to add to the public use and enjoyment of the water's edge, as well as reducing the extent of damage to coastal resources from strong storms similar to Hurricane Sandy.

(3) *Further develop the State's major ports of Albany, Buffalo, New York, Ogdensburg, and Oswego as centers of commerce and industry, and encourage the siting, in these port areas, including those under the jurisdiction of State public authorities, of land use and development which is essential to, or in support of, the waterborne transportation of cargo and people.*

The TSP is consistent with this policy because it reduces coastal storm risk to ports in NY and NJ Harbor and existing and future commercial and industrial facilities from impacts associated with sea level rise, storm surges, and coastal flooding by installing shore-based and in-water features. Ferry and water taxi landings and piers will be at a reduced risk from coastal storm flooding with the TSP and thus is consistent with this policy.

(4) *Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those traditional uses and activities that have provided such areas with their unique maritime identity.*

The TSP is consistent with this policy because it reduces coastal storm risk to tidally affected tributaries to NY and NJ Harbor and western Long Island Sound, which contain smaller harbor areas from impacts associated with sea level rise, storm surges, and coastal flooding. By installing shore-based and in-water features, the TSP would reduce damaged coast by coastal storms and flooding in these areas, as described in the narrative for the previous policies.

(5) *Encourage the location of development in areas where public services and facilities essential to such development are adequate.*

The TSP is consistent with this policy because it reduces coastal storm risk to the existing and future public services and development in the coastal area from impacts associated with sea level rise, storm surges, and coastal flooding. The TSP will protect these areas by installing shore-based and in-water measures that would not be otherwise protected with a no-action alternative.

(6) *Expedite permit procedures in order to facilitate the siting of development activities at suitable locations.*

The TSP is not applicable to this policy.

## **5.2 Fish and Wildlife Policies**

(7) *Significant coastal fish and wildlife habitats will be protected, preserved, and where practical, restored to maintain their viability as habitats.*

The TSP will affect and be located in the NYSDEC-designated Critical Environmental Area (CEA) and a Significant Coastal Fish and Wildlife Habitat. The Project may involve dredging and excavation, physical alteration of shore area through construction of dune structures and construction of coastal

storm risk structures. The TSP will protect coastal habitat and reduce damage from coastal storms similar to Hurricane Sandy, which is in direct accord with this policy, as well as the direction of the Waterfront Revitalization Program's regarding SNWA; Flushing Bay, Little Neck Bay, JB, and Northwestern Staten Island Harbor Herons Area are all designated as SNWAs.

This policy requires that a narrative for each significant habitat be provided to aid in consistency determination. As stated above, the Project area has been identified by NYSDEC as a CEA and by NYC as a proposed SNWA. Following is a narrative for the Project site, noting the five required items.

(1) The TSP is located in Kings, Queens, New York, Bronx, Richmond Counties, in NY and Essex, Hudson, and Union Counties in NJ and will reduce the risk of damage to coastal areas in these counties from sea level rise and storm surges.

(2) The JB Ecological Restoration and Research Team reports (Tanacredi et al, 2002) observed many different types of vegetative, fish, bird, and other wildlife species. These species are discussed in the Draft Feasibility Report and Draft Tier 1 Environmental Impact Statement (EIS).

(3) Physical, biological, and chemical parameters that will be improved and/or increased by the TSP include reduced risk of damage to coastal habitat and associated wildlife and habitat and erosion control from coastal storms.

(4) Dredging would be an activity to impact offshore coastal habitat, while composite seawall and dune, seawalls, and floodwalls will require filling along the coastline and may impact nearshore benthic, fish and bird habitat. However, all work will utilize best management practices to limit impacts to offshore benthic and fish communities.

(5) Fill placement associated with the composite seawall and dune feature in the NYNJHAT Study Area will stabilize beaches and dunes to minimize breaching and overwashing and consequent damage to habitats and communities on the barrier islands. A comprehensive assessment of potential project impacts to threatened and endangered species and habitats was conducted and is presented in the Draft Tier 1 EIS prepared for the project.

Potential impacts to fish and wildlife habitats will be avoided and minimized to the extent possible by employing construction Best Management Practices (BMPs) and a site-specific Stormwater Pollution Prevention Plan (SWPPP) to maintain their viability. As the TSP becomes more defined, the Tier 2 EIS will provide a more detailed evaluation of those projects, as necessary, and any associated mitigation for potential long-term, unavoidable impacts to fish and wildlife habitats. Therefore, the TSP would be undertaken in a manner consistent with this policy.

(8) *Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bio-accumulate in the food chain or which cause significant sublethal or lethal effect on those resources.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk of coastal storms in commercial and industrial areas where potential pollutants or hazardous wastes may be present and which could otherwise be impacted by sea level rise, storm surges, and coastal flooding.

As described in the Tier 1 EIS draft Environmental Consequences, potential construction impacts, such as impacts from dredging, soil erosion and sedimentation, will be minimized by employing construction BMPs and a site-specific SWPPP. Impacts from construction and operation of specific project measures will be further modeled and analyzed in the Tier 2 EIS. Avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this phase of the project.

(9) *Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks, and developing new resources.*

This policy is not applicable because the TSP reduces risk from storm surges and coastal flooding and does not expand recreation areas or recreational uses (although, it will preserve them from destruction caused by future flood events).

(10) *Further develop commercial finfish, shellfish, and crustacean resources in the coastal area by encouraging the construction of new, or improvement of existing on-shore commercial fishing facilities, increasing marketing of the State's seafood products, maintaining adequate stocks, and expanding aquaculture facilities.*

This policy is not applicable, because the TSP provides CSRM features to minimize impacts associated with sea level rise, storm surges, and coastal flooding, but does not develop coastal zone commercial fishing or aquaculture resources.

### **5.3 Flooding and Erosion Hazards Policies**

(11) *Buildings and other structures will be sited in the coastal area to minimize damage to property and the endangering of human lives caused by flooding and erosion.*

This policy is not applicable because the TSP provides CSRM features to minimize impacts associated with sea level rise, storm surges, and coastal flooding, and does not involve siting issues. However, the TSP would help to minimize the damage that sea level rise, storm surges, and coastal flooding can inflict on buildings and structures located in the coastal area. Figure 5-1 shows the projected flood extent in the Study Area with and without the TSP, with the conceptual alternative. Green shading depicts areas at a reduced risk from flooding with the TSP. Without the TSP those areas would be at greater flood risk.



Figure B1-1. Areas at a Reduced Risk of Flooding with NYNJHAT Study TSP Implementation



(12) *Activities or development in the coastal area will be undertaken to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.*

The TSP will require physical alteration of onshore and offshore coastal area; is located in flood and erosion hazard areas; and will affect beaches, dunes, and barrier islands. Damage to these natural protected features will be avoided and minimized to the extent possible by employing construction BMPs and a site-specific SWPPP to maintain their viability. However, the TSP is consistent with this policy because it reduces coastal storm risk from storms benefit shoreline communities by making long-term improvements to, or creating new, natural protective features such as coastal wetlands, barrier islands and shoreline habitats.

(13) *The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.*

The TSP is consistent with this policy because it reduces coastal storm risk to NY and NJ Harbor and its tributaries from impacts associated with sea level rise, storm surges, and coastal flooding well beyond 30 years.

During the Tier 2 analysis when the project measures are refined, construction standards and maintenance programs will be developed to control erosion.

(14) *Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.*

The TSP is consistent with this policy because it provides CSRM features that are designed to minimize impacts associated with sea level rise, storm surges, and coastal flooding while also minimizing induced flooding and erosion. As previously described in Policy 8, the TSP will incorporate construction BMPs to address erosion.

Additionally, different project measures have different construction and operation impacts to floodplains and may cause temporary inundation, primarily when flood barriers are temporarily closed. The impacts from induced flooding to floodplains and areas adjacent to a closed barrier will be further evaluated during Final Integrated Feasibility Report/Tier 1 EIS. As the measures become more defined, more detailed mitigation planning for long-term, unavoidable impacts will be evaluated during the Tier 2 EIS.

(15) *Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.*

The TSP is consistent with this policy because construction of CSRM features would be temporary. Where excavation or dredging is necessary to construct a feature, the duration and area of construction would be limited to avoid significantly interfering with natural coastal processes. The Tier 2 EIS will

provide additional analysis and identification of management or mitigation actions and incorporate BMPs to avoid significant impacts on coastal processes.

*(16) Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only where the public benefits outweigh the long term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features.*

The TSP is consistent with this policy, because it provides CSRM features that reduce the risk to NY and NJ Harbor, its tributaries and the adjacent communities from impacts associated with sea level rise, storm surges, and coastal flooding. The economic impacts associated with construction and operation of the shore-based and in-water features are significantly lower than the cost to repair damages reasonably anticipated to occur from coastal storms similar to Hurricane Sandy. Benefits to the human and natural environments outweigh the expenditures of public funds. The Tier 2 EIS will provide more detailed analyses of specific economic costs and benefits associated with each alternative.

*(17) Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.*

The TSP will affect and will be located in flood and erosion hazard areas. However, the TSP includes a combination of non-structural measures as well as levees, SSBs, seawalls, and dune structures. Accordingly, as structural measures (ex. levees, seawall) are likely necessary to minimize damage to these coastal resources from coastal storms similar to Hurricane Sandy, non-structural measures are also included, where feasible, as applicable. The proposed activities are consistent to the maximum extent practicable with this policy. The TSP is consistent with this policy because several of the proposed project measures are non-structural. The Tier 2 EIS will include additional analysis and modeling to further identify potential impacts and mitigation for impacts to natural resources and property associated with construction and operation of all measures, including non-structural as well as structural.

*(18) To safeguard the vital economic, social and environmental interests of the State and of its citizens, proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the State has established to protect valuable coastal resource areas.*

The TSP is consistent with this policy, because it provides CSRM features that reduce the risk of damage to valuable coastal resource areas from impacts associated with sea level rise, storm surges, and coastal flooding. The Draft Tier 1 EIS has considered how the TSP measures impact the social, cultural, economic and environmental interests of the region and their citizens and avoid adversely affecting the valuable coastal resource areas. The Tier 2 EIS will address these interests when measures and alignments are better defined.

## **5.4 Public Access Policies**

*(19) Protect, maintain, and increase the level and types of access to public water- related recreation resources and facilities.*



The TSP is consistent with this policy, because it provides CSR features that reduce the risk of damage to the existing public water-related recreation resources and facilities from impacts associated with sea level rise, storm surges, and coastal flooding.

Constructing TSP measures may have a temporary impact on recreation resources by disrupting access to ensure the safety of active construction work sites, but these impacts would end once construction is completed. To further limit construction impacts, BMPs would include limiting construction hours to standard allowable hours and informing the communities of the construction safety measures and schedule. Beneficial long-term impacts on recreation would occur through stabilization of beach areas currently used for recreation, protecting recreation resources from large storm events and sea level rise. Long-term benefits to recreational resources include increase in the size of recreational beach areas, protection of beaches, and protection of natural habitats, such as dunes.

(20) *Access to the publicly-owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly-owned shall be provided and it shall be provided in a manner compatible with adjoining uses.*

Best management practices would be employed to avoid or minimize restrictions to public access of foreshore areas during the active construction phases of NYNJHAT study measures. These BMPs would include a combination of timing to avoid high use times of year, staging equipment away from high access points, and other practices to be refined and analyzed during the Tier 2 EIS. Further, access to publicly-owned lands will be restored once construction is complete.

## **5.5 Recreation Policies**

(21) *Water-dependent and water-enhanced recreation will be encouraged and facilitated and will be given priority over non-water-related use along the coast.*

The TSP is consistent with this policy because it provides CSR features that reduce risk to public water-related recreation resources and facilities, including beach areas currently used for recreation, from impacts associated with sea level rise, storm surges, and coastal flooding. Beneficial long term impact on recreation would occur through stabilization of beach areas currently used for recreation.

Barrier closure would hinder vessel traffic to and from recreational fishing locations during large storm events; however, recreational vessels are not anticipated to be in use during large storm events. Following barrier re-opening, recreational activities would continue, resulting in no long-term permanent impacts.

(22) *Development when located adjacent to the shore will provide for water-related recreation whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development.*

This policy is not applicable because the TSP provides CSR features to minimize impacts associated with sea level rise, storm surges, and coastal flooding, and does not involve development. However, the TSP would help to minimize the damage that sea level rise, storm surges, and coastal flooding can inflict on buildings and structures located in the coastal area. Figure 5-1 shows the projected flood extent in the

Study Area with and without the TSP, with the conceptual alternative. Green shading depicts areas at a reduced risk from flooding with the TSP. Without the TSP those areas would be at greater flood risk.

## **5.6 Historic and Scenic Resources Policies**

(23) *Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the State, its communities, or the nation.*

The TSP is consistent with this policy because it provides CSR features that reduce risk to structures or sites that are of historic, archeological, architectural or cultural significance, from impacts associated with sea level rise, storm surges, and coastal flooding. As part of the Tier 2 EIS, consultation with NYSHPO would be conducted for selected project measures to determine whether site-specific cultural resource surveys are warranted, and should impacts be anticipated, the appropriate actions to minimize or mitigate such impacts.

(24) *Prevent impairment of scenic resources of statewide significance.*

The Tier 2 EIS will include models and assessments of visual impacts to prominent locations such as the Statue of Liberty, the Battery, Coney Island, Fort Hamilton, and others.

(25) *Protect, restore or enhance natural and man-made resources which are not identified as being of statewide significance, but which contribute to the overall scenic quality of the coastal area.*

The TSP is consistent with this policy, because it provides CSR features that reduce the risk of impacts associated with sea level rise, storm surges, and coastal flooding and provide a net benefit to coastal areas.

(26) *Conserve and protect agricultural lands in the State's coastal area.*

The TSP is consistent with this policy because it provides CSR features that reduce risk to agricultural lands in coastal areas from impacts associated with sea level rise, storm surges, and coastal flooding.

## **5.7 Energy and Ice Management Policies**

(27) *Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.*

This policy is not applicable, because the TSP does not involve the siting and construction of energy facilities.

(28) *Ice management practices shall not interfere with the production of hydroelectric power, damage significant fish and wildlife and their habitats, or increase shoreline erosion or flooding.*

This policy is not applicable, as the TSP project does not involve ice management.

(29) *Encourage the development of energy resources on the outer continental shelf, in Lake Erie and in other water bodies, and ensure the environmental safety of such activities.*

This policy is not applicable, because the TSP does not involve energy development in the Outer Continental Shelf (OCS) or in Lake Erie.

## **5.8 Water and Air Resources Policies**

*(30) Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to state and national water quality standards.*

The TSP does not involve discharge of toxic or hazardous substances. As stated in Policy 8, construction of inland TSP measures would require BMPs to minimize soil erosion and sedimentation of run-off. Additionally, construction of in-water TSP measures would not affect the water classification or water quality standards in the project area, as determined by the 404(b)(1) evaluation provided in Appendix 005AC. Therefore the TSP is consistent with this policy.

*(31) State coastal area policies and management objectives of approved local waterfront revitalization programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already overburdened with contaminants will be recognized as being a development constraint.*

The TSP considers state coastal and local waterfront revitalization programs, policies and management objectives, such as those of the NY State CMP and the NYC WRP. The TSP would not affect the water classification or modify water quality standards in the project area, as determined by the 404(b)(1) evaluation for this TSP (see Appendix 005AC); therefore, it is consistent with this policy.

*(32) Encourage the use of alternative or innovative sanitary waste systems in small communities where the costs of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.*

This policy is not applicable, because the TSP does not involve the use of sanitary waste systems in small communities.

*(33) Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

The TSP is consistent with this policy because construction activities for all shore-based measures will include BMPs and a site-specific SWPPP, which minimize impacts to coastal waters from soil erosion and sedimentation of run-off, as described in the Tier 1 EIS. Impacts from construction and implementation of selected project measures will be further modeled and analyzed in the Tier 2 EIS. Additional specific avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this phase of the project.

*(34) Discharge of waste materials into coastal waters from vessels subject to State jurisdiction will be limited so as to protect significant fish and wildlife habitats, recreational areas and water supply areas.*

This policy is not applicable because the TSP does not involve discharging waste materials into coastal waters from vessels.

(35) *Dredging and dredge material placement in coastal waters, as applicable and permitted, will be undertaken in a manner that meets existing state dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands*

The TSP is consistent with this policy because any dredging and dredge material placement associated with construction would be performed in compliance with state dredging permit requirements. Potential short-term impacts to significant fish and wildlife habitats associated with the TSP are similar to those identified in the Draft Tier 1 EIS. These temporary impacts primarily result from the short-term disturbance of bottom sediment and localized change in channel depth associated with construction activities. These impacts would be further minimized by implementing permit-required BMPs. Additionally, dredged material placement will comply with Water Quality Certification/Authorization to Proceed and Federal Consistency permits and Determinations.

(36) *Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.*

This policy is not applicable because the TSP does not involve shipment and storage of petroleum or other hazardous materials.

(37) *Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics and eroded soils into coastal waters.*

The TSP is consistent with this policy, as previously described in the response to Policy 8. Further, operation and maintenance of in-water storm surge and tide gate measures (which open and close) may result in the suspension of potentially contaminated sediments, but the impact to coastal waters from suspended sediments is anticipated to be low (especially as compared with impacts to resources from the without project condition during storms). The impacts from barrier closure to turbidity levels and overall water quality will be further evaluated during the Final Integrated Feasibility Report/Tier 1 EIS . Avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this phase of the project.

(38) *The quality and quantity of surface water and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.*

This policy is not applicable because the TSP does not require or involve impacting the quality or quantity of surface water and groundwater supplies.

(39) *The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water*

*supplies, significant fish and wildlife habitats, recreation areas, important agricultural land, and scenic resources.*

This policy is not applicable, because the TSP does not involve the transport, storage, treatment and disposal of solid wastes.

*(40) Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and shall conform to state water quality standards.*

This policy is not applicable, because the TSP does not involve effluent discharges from steam electric generating or industrial facilities.

*(41) Land use or development in the coastal area will not cause national or State air quality standards to be violated.*

The TSP will produce temporary localized emission increases from the diesel-powered construction equipment working at the various project locations. The localized emission increases from the diesel-powered equipment will last only during the project's construction period in each location and then end when the project phase is complete at each location, thus any potential impacts will be temporary in nature and geographically dispersed over the project duration. The Project's General Conformity-related annual emissions are below the de minimis threshold levels for the relevant pollutants. Therefore, by rule (40 CFR §93.153 (b)), the Project is considered de minimis and will have only a temporary impact around the construction activities with no long-term impacts and no negative effects on the applicable State Implementation Plan (SIP). The NYNJHAT project includes the protection of ecosystems associated with shorelines, inlets, barrier islands, back bays, and mainland upland areas, and restoration of vegetation lost through erosion, all of which will contribute to carbon sequestering and dune structural resiliency during storms. The protection of these ecosystems provided by the TSP will enable the greater coastal ecosystem to continue to sequester carbon through sustainable vegetation growth resulting from the project and will minimize future storm damage further inland and associated reconstruction emissions. As a result, CO<sub>2</sub> generation during future emergency response clean-up and restoration of the coastline will be limited or avoided. It is anticipated that the project will have a net benefit long-term local impact related to climate change. Therefore, the TSP will be compliant with the Clean Air Act and this policy (see Appendix X).

*(42) Coastal management policies will be considered if the State reclassifies land areas pursuant to the prevention of significant deterioration regulations of the federal Clean Air Act.*

See response to Policy 41. The TSP considers current coastal management policies, and will be in compliance with the Clean Air Act and this policy (see Appendix X).

*(43) Land use or development in the coastal area must not cause the generation of significant amounts of acid rain precursors: nitrates and sulfates.*

See response to Policy 41. The estimated project emissions for acid rain precursors is below the de minimis threshold levels. The Proposed Project will be in compliance with Clean Air Act (see Appendix X).

(44) *Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to tidal and freshwater wetlands and their benefits from the impacts associated with sea level rise, storm surges, and coastal flooding. As the project measures become more defined and site-specific surveys are completed, specific areas of wetland creation and restoration will be determined. It is possible that excavation and fill activities associated with constructing and operating selected measures may permanently impact wetlands and their transition zones through removal of vegetation and filling. Additionally, the storm surge barriers and tide gates could cause permanent changes in hydrology which could lead to secondary impacts to wetlands through scouring or sedimentation. Any potential impacts will be incorporated and quantified during the Final Integrated Feasibility Report/Tier 1 EIS. The Tier 2 EIS will describe and evaluate beneficial long-term impacts to wetlands from nature-based measures such as created wetlands.

## 5.9 New York City Waterfront Revitalization Program (WRP)

The table below lists each NYC WRP policy and their applicability to the TSP within each planning region.

*Table B1-2. NY City WRP Policies and their Applicability to the TSP within Each Applicable City Planning Region*

Policy	Statement	Planning Regions				
		Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
1	Support and facilitate commercial and residential redevelopment in areas well-suited to such development.	Y	Y	N/A	Y	Y
2	Support water-dependent and industrial uses in NYC coastal areas that are well-suited to their continued operation.	Y	Y	N/A	Y	Y
3	Promote use of NYC's waterways for commercial and recreational boating and water-dependent transportation centers.	Y	Y	N/A	Y	Y
4	Protect and restore the quality and function of ecological systems within the NYC coastal area.	Y	Y	N/A	Y	Y
5	Protect and improve water quality in the NYC coastal area.	Y	Y	N/A	Y	Y
6	Minimize loss of life, structures and natural resources caused by flooding and erosion and increase resilience to future considerations created by climate change.	Y	Y	N/A	Y	Y
7	Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials and industrial materials that may pose risks to the environment and public health and safety.	Y	Y	N/A	Y	Y

Policy	Statement	Planning Regions				
		Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay	Long Island Sound	Jamaica Bay
8	Provide public access to and along NYC's coastal waters.	Y	Y	N/A	Y	Y
9	Protect scenic resources that contribute to the visual quality of the NYC coastal area.	Y	Y	N/A	Y	Y
10	Protect, preserve and enhance resources significant to the historical, archaeological, and cultural legacy of the NYC coastal area.	Y	Y	N/A	Y	Y

Notes: Y – policy is applicable to Planning Region and project will be compliant; N – policy is applicable to Planning Region and project will not be compliant; N/A – policy is not applicable to the proposed NYNJHAT study.

The Hackensack/Passaic and Raritan Planning Regions are not in NY so have not been included in this table.

(1) *Support and facilitate commercial and residential redevelopment in areas well-suited to such development.*

The TSP is consistent with this policy, because it provides CSRM features that reduce risk to a variety of areas, including those that may be suited to commercial and residential redevelopment, from impacts associated with sea level rise, storm surges, and coastal flooding. Therefore, low lying areas are likely to experience a net benefit from this project.

(2) *Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.*

The TSP is consistent with this policy, because it provides CSRM features that reduce risk of operational interruptions to water-dependent and industrial uses in NYC from impacts associated with sea level rise, storm surges, and coastal flooding.

(3) *Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.*

The TSP is consistent with this policy, as its goals are to reduce the risk of flooding to flood prone areas, thereby protecting the City's existing public water-related recreation resources and facilities. Beneficial long-term impacts on recreation would occur through stabilization of beach areas currently used for recreation, protecting recreation resources from large storm events and sea level rise. Temporary barrier closure would hinder vessel traffic to and from recreational fishing locations during large storm events; however, recreational vessels are not anticipated to be in use during large storm events. Following barrier re-opening, recreational activities would continue, avoiding long-term permanent impacts.

(4) *Protect and restore the quality and function of ecological systems within the New York City coastal area.*

The TSP is consistent with this policy because it provides CSRM features that reduce the risk of impacts to the quality and function of ecological systems from impacts associated with sea level rise, storm surges, and coastal flooding. Where practical, potential impacts to fish and wildlife habitats will be avoided and minimized to the extent possible to maintain their viability. As the measures become more defined, mitigation planning for long-term, unavoidable impacts will be evaluated during the Tier 2 EIS. No long-term significant impacts are associated with the TSP.

(5) *Protect and improve water quality in the New York City coastal area.*

Temporary impacts to water quality will result from the construction of shore-based measures and in-water features from foundation installation, dredging, dewatering, and excavation and fill activities. Impacts to water quality would be minimized by the implementation of BMPs. Water quality is anticipated to return to baseline conditions after construction activities are completed. As the measures become more defined, mitigation planning for long-term, unavoidable impacts will be evaluated during the Tier 2 EIS.

Implementation of the TSP will not inhibit future improvements to water quality in areas where water quality is currently degraded. However, a long-term beneficial impact of the project action would be to reduce risk of flooding from coastal storms to wastewater treatment plants and critical infrastructure and subsequent erosion by protecting that can contribute contaminants into NYC's surface waters and degraded water quality. Therefore, the TSP is consistent with this policy.

(6) *Minimize loss of life, structures and natural resources caused by flooding and erosion and increase resilience to future considerations created by climate change.*

The TSP is consistent with and promotes this policy because it provides CSRM features that reduce the risk to life, structures, and natural resources from impacts associated with sea level rise, storm surges, and coastal flooding.

Different project measures may have different construction and operation impacts to floodplains and low lying areas and may cause temporary inundation, primarily associated with closed flood barriers. These impacts from induced flooding will be further evaluated during Final Integrated Feasibility Report/Tier 1 EIS. As the measures become more defined, mitigation planning for long-term, unavoidable impacts will be evaluated during the Tier 2 EIS.

(7) *Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials and industrial materials that may pose risks to the environment and public health and safety.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk of coastal storms in commercial and industrial areas where potential pollutants or hazardous wastes may be present and which could otherwise be impacted by sea level rise, storm surges, and coastal flooding.



As described in the Tier 1 EIS draft Environmental Consequences, potential construction impacts, such as impacts from dredging, soil erosion and sedimentation, will be minimized by employing construction BMPs and a site-specific SWPPP. Impacts from construction and operation of specific project measures will be further modeled and analyzed in the Tier 2 EIS. Avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this phase of the project.

(8) *Provide public access to and along New York City's coastal waters.*

The TSP is consistent with this policy, as its goals are to reduce the City's risk of flooding, including those lands immediately adjacent to the water's edge that provide public access to coastal waters. Beneficial long-term impacts on public access would occur through stabilization of beach areas currently used for recreation, protecting recreation resources from large storm events and sea level change. Project measures will not prevent access to these publicly-owned lands.

(9) *Protect scenic resources that contribute to the visual quality of the New York City coastal area.*

The TSP is consistent with this policy, because it provides CSRM features that reduce the risk to scenic resources, which contribute to the visual quality of the NYC coastal area, from impacts associated with sea level rise, storm surges, and coastal flooding. Additionally, the presence of TSP measures would not result in visual impairment of NYC's coastal area.

(10) *Protect, preserve and enhance resources significant to the historical, archaeological, and cultural legacy of the New York City coastal area.*

The TSP is consistent with this policy, because it provides CSRM features that reduce risk to resources significant to the historical, archaeological, and cultural legacy of the NYC coastal area, from impacts associated with sea level rise, storm surges, and coastal flooding.

## **5.10 Findings of the Coastal Zone Consistency Evaluation**

This coastal zone consistency evaluation considered the TSP in NY State and evaluated the project's consistency with the applicable NY State Coastal Zone Management Policies, as well as those policies delegated by the State of NY to the NYC. Based on this evaluation, the TSP is consistent with applicable policies.

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**APPENDIX B 3:**  
**NEW JERSEY COASTAL ZONE MANAGEMENT RULES**

## 6 New Jersey Coastal Zone Management Rules

The State of NJ administers its coastal zone program through the NJ Department of Environmental Protection (NJDEP) Land Use Regulation Program. The Coastal Zone Management Rules (N.J.A.C. 7:7E, as amended through 05 October 2021) regulate the use and development of coastal resources, and are used by NJDEP in reviewing permit applications under the Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq. (as amended to July 19, 1993) and Federal Consistency Determinations (307 of the Federal Coastal Zone Management Act), the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq. (coastal wetlands permits), and the Waterfront Development Law, N.J.S.A. 12:5-3 (waterfront development permits) among others. The Coastal Zone Management Rules were first adopted following Federal approval in September 1978, and were most recently amended in October 2021. The Coastal Zone Management rules constitute the substantive core of the program.

The TSP is within the coastal zone boundaries of NJ. The following describes NJ's coastal zone policies and evaluates the NYNJHAT study project's consistency with these policies. This consistency evaluation is provided to enable NJ environmental authorities to consider the effect of the TSP on the state's coastal zone resources.

This coastal zone consistency evaluation considers the implementation of the TSP. The impacts to aquatic habitat associated with the TSP have been described at a broad-level to be comparable to the level of detail provided in the Tier 1 EIS. The Tier 2 EIS and accompanying CZM evaluation will consist of detailed reviews of the more refined project design. In the Tier 2 phase, mitigation will be proposed, as required, and will be coordinated with the affected state, as well as mandated under the CWA and CZMA authorization and permitting authorities, as delegated to the affected state, and undertaking by the USACE New York District, as required.

The table below lists each NJ CZM policy and their applicability to the TSP within each planning region.

**Table B3-1. New Jersey Coastal Zone Management Rules and their Applicability to the TSP within Each Applicable State Planning Region**

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-9.2	Shellfish Habitat - This policy generally limits disturbance of shellfish habitat.	N/A	N/A	N/A	N/A
7:7-9.3	Surf Clam Areas – This policy prohibits development that would destroy or contaminate surf clam areas.	N/A	N/A	N/A	N/A
7:7-9.4	Prime Fishing Areas - This policy prohibits submarine mining of sand or gravel in prime fishing areas.	N/A	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-9.5	Finfish Migratory Pathways - This policy prohibits developments, such as dams or dikes that would create permanent physical barriers to migratory fish. Developments that would lower water quality, so as to interfere with fish movement patterns, are also prohibited.	Y	Y	Y	N/A
7:7-9.6	Submerged Vegetation Habitat - This policy prohibits development in submerged vegetation habitat, except for utility trenching or dredging, provided that there is no practicable or feasible alternative to avoid the vegetation, and that impacts to the habitat area are minimized to the maximum extent practicable.	N/A	N/A	N/A	Y
7:7-9.7	Navigation Channels - This policy prohibits construction that would extend into a navigation channel and restrict dredging in navigation channels.	Y	Y	Y	N/A
7:7-9.8	Canals - This policy prohibits actions that would interfere with boat traffic in canals used for navigation.	N/A	N/A	N/A	N/A
7:7-9.9	Inlets - This policy prohibits filling and discourages submerged infrastructure in coastal inlets.	N/A	N/A	N/A	N/A
7:7-9.10	Marina Moorings - This policy prohibits non-water-dependent development in marina mooring areas.	N/A	N/A	N/A	N/A
7:7-9.11	Ports - This policy prohibits uses within a port that preempt or interfere with typical port uses and encourages docks and piers for cargo movements.	Y	Y	Y	N/A
7:7-9.12	Submerged Infrastructure Routes - This policy prohibits any activity that would increase the likelihood of damaging submerged infrastructure (pipelines, cables) or interfering with maintenance operations..	Y	Y	Y	N/A
7:7-9.13	Shipwrecks and Artificial Reefs - This policy restricts the use of special areas with shipwrecks and artificial reefs that would adversely affect the usefulness of this special area as a fisheries resource.	N/A	Y	Y	N/A
7:7-9.14	Wet Borrow Pits - This policy restricts the use and filling of underwater borrow pits	N/A	N/A	N/A	N/A
7:7-9.15	Intertidal and Subtidal Shallows - This policy discourages disturbance of shallow-water areas (i.e., permanently or twice daily submerged areas from the spring high tide to a depth of up to -four feet below mean lower low water [MLLW]).	Y	Y	Y	N/A
7:7-9.16	Dunes - This policy protects and preserves ocean and bayfront dunes.	N/A	N/A	N/A	N/A
7:7-9.17	Overwash Areas - Overwash areas are areas 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. An overwash area may, through stabilization and vegetation, become a dune. This policy restricts development in overwash areas, due to their sensitive nature.	N/A	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-9.18	Coastal High-Hazard Areas - This policy restricts development in coastal high-hazard (i.e., flood-prone) areas.	Y	Y	Y	N/A
7:7-9.19	Erosion Hazard Areas - This policy prohibits development under most circumstances in erosion-prone areas except to protect public safety.	Y	Y	Y	N/A
7:7-9.20	Barrier Island Corridor - This policy restricts new development on barrier island corridors.	N/A	N/A	N/A	N/A
7:7-9.21	Bay Islands - This policy restricts development on bay islands.	N/A	N/A	N/A	N/A
7:7-9.22	Beaches - This policy restricts development on beaches.	Y	Y	Y	N/A
7:7-9.23	Filled Water's Edge - This policy seeks to promote water-dependent uses at waterfront areas that have been previously filled or modified for commercial activity.	Y	Y	Y	N/A
7:7-9.24	Existing Lagoon Edges - This policy restricts development at lagoon edges because of potential water quality problems.	N/A	N/A	N/A	N/A
7:7-9.25	Flood Hazard Areas - This policy is designed to restrict development in flood hazard areas and to ensure that the waterfront is not pre-empted by uses that could function equally well at inland locations.	Y	Y	Y	N/A
7:7-9.26	Riparian Zones - This policy restricts development in riparian zones in order to protect water quality and the health of fish and wildlife.	Y	Y	Y	N/A
7:7-9.27	Wetlands - This policy restricts disturbance in wetland areas and requires mitigation if wetlands are destroyed or disturbed.	Y	Y	Y	N/A
7:7-9.28	Wetland Buffers - This policy restricts development in wetland buffer areas in order to protect wetlands.	Y	Y	Y	N/A
7:7-9.29	Coastal Bluffs - This policy restricts development on coastal bluffs, defined as steep slopes (greater than 15 percent) of rock or sand, gravel sediment which are adjacent to the shoreline or which are demonstrably associated with shoreline processes.	N/A	N/A	N/A	N/A
7:7-9.30	Intermittent Stream Corridors - This policy restricts action in intermittent stream corridors.	Y	Y	Y	N/A
7:7-9.31	Farmland Conservation Areas - This policy seeks to preserve large parcels of land used for farming.	N/A	N/A	N/A	N/A
7:7-9.32	Steep Slopes - This policy seeks to preserve steep slopes by restricting development in such areas. Steep slopes are land areas with slopes greater than 15 percent, which are not adjacent to the shoreline.	N/A	N/A	N/A	N/A
7:7-9.33	Dry Borrow Pits - This restricts the excavation and filling of upland or dry borrow pits.	N/A	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-9.34	Historic and Archeological Resources - This policy seeks to preserve historic and archaeological resources include objects, structures, shipwrecks, buildings, neighborhoods, districts, and man-made or man-modified features of the landscape and seascape, including historic and prehistoric archaeological sites, which either are on or are eligible for inclusion on the NJ or National Register of Historic Places.	Y	Y	Y	N/A
7:7-9.35	Specimen Trees - This policy seeks to protect specimen trees as defined by NJDEP.	Y	Y	Y	N/A
7:7-9.36	Endangered and Threatened Wildlife and Vegetation Habitats - This policy restricts development in areas known to harbor endangered or threatened wildlife or vegetation species.	Y	Y	Y	N/A
7:7-9.37	Critical Wildlife Habitats - Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating. Such habitats include rookeries and stopovers for birds, natural corridors for wildlife movement, and ecotones (edges between two types of habitats). This policy discourages development that would impact critical wildlife habitat.	Y	Y	Y	N/A
7:7-9.38	Public Open Space - This policy encourages the development of new public open spaces and discourages development that might adversely affect existing public open space.	Y	Y	Y	N/A
7:7-9.39	Special Hazard Areas - This policy discourages development in Special 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, such as the navigable air space around airports and seaplane landing areas, potential evacuation zones, and areas where hazardous substances as defined at N.J.S.A. 58:10-23.11b are used or disposed, including adjacent areas and areas of hazardous material contamination.	Y	Y	Y	N/A
7:7-9.40	Excluded Federal Lands - Federal lands are beyond the jurisdiction of the NJ Coastal Zone. NJ has the authority to review activities on Federal lands if there may be spillover impacts on NJ's Coastal Zone.	N/A	N/A	N/A	N/A
7:7-9.41	Special Urban Areas - This policy seeks to encourage waterfront development that would benefit certain municipalities that receive state aid.	Y	Y	Y	N/A
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.	N/A	N/A	N/A	N/A
7:7-9.43	Hackensack Meadowlands District - This policy allows the NJ Meadowlands Commission (NJMC) to serve as the reviewing agency for actions within the Hackensack Meadowlands District.	Y	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-9.44	Wild and Scenic River Corridors - This policy recognizes the outstanding value of certain rivers in NJ by restricting development to compatible uses.	N/A	N/A	N/A	N/A
7:7-9.45	Geodetic Control Reference Marks - This policy discourages disturbance of geodetic control reference marks.	Y	Y	Y	N/A
7:7-9.46	HR Waterfront Area - This policy sets forth non-industrial and industrial development standards for public access and open space along the HR Waterfront Area, and requires development, maintenance, and management of a section of the Hudson Waterfront Walkway coincident with the shoreline of the development property.	Y	Y	N/A	N/A
7:7-9.47	Atlantic City - This policy establishes restrictions and prohibitions within the municipal boundary of the City of Atlantic City.	N/A	N/A	N/A	N/A
7:7-9.48	Dredged Material Management Area - This policy discourages changes in land use of a dredge material management area.	N/A	N/A	N/A	N/A
Subchapter 10	Standards For Beach and Dune Activities	N/A	N/A	N/A	N/A
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 Wildlife Species Habitat Evaluation	Y	Y	Y	N/A
7:7-12.2	Shellfish Aquaculture - Shellfish aquaculture is the use of permanently inundated water areas, whether saline or fresh, for the purposes of growing and harvesting plants or animals in a way to promote more rapid growth, reduce predation, and increase harvest rate.	N/A	N/A	N/A	N/A
7:7-12.3	Boat Ramps - Boat ramps are inclined planes, extending from the land into a water body for the purpose of launching a boat into the water until the water depth is sufficient to allow the boat to float.	N/A	N/A	N/A	N/A
7:7-12.4	Docks and Piers for Cargo and Commercial Fisheries - Docks and piers for cargo and passenger movement and commercial fisheries are structures supported on pilings driven into the bottom substrate or floating on the water surface, used for loading and unloading passengers or cargo, including fluids, connected to or associated with, a single industrial or manufacturing facility or to commercial fishing facilities.	N/A	N/A	N/A	N/A
7:7-12.5	Recreational Docks and Piers - Recreational and fishing docks and piers are structures supported on pilings driven into the bottom substrate, or floating on the water surface or cantilevered over the water, which are used for recreational fishing or for the mooring of boats or jet skis used for recreation or fishing, except for commercial fishing, and house boats.	N/A	N/A	N/A	N/A



Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-12.6	Maintenance Dredging - Maintenance dredging is the removal of accumulated sediment from previously authorized and legally dredged navigation and access channels, marinas, lagoons, canals or boat moorings for the purpose of maintaining a previously authorized water depth and width for safe navigation.	N/A	N/A	N/A	N/A
7:7-12.7	New Dredging - New dredging is the removal of sediment that does not meet the definition of maintenance dredging as defined in 7:7E-12.6.	N/A	N/A	N/A	N/A
7:7-12.8	Dredged Material Disposal - This policy sets the standards relevant to dredged material disposal in water areas.	Y	Y	Y	N/A
7:7-12.9	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.	N/A	N/A	N/A	N/A
7:7-12.10	Solid Waste or Sludge Dumping - This policy prohibits the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area.	N/A	N/A	N/A	N/A
7:7-12.11	Filling - This policy restricts the deposition of material including sand, soil, earth, and dredged material into water areas for the purpose of raising water bottom elevations to create land areas.	Y	Y	Y	N/A
7:7-12.12	Mooring - A boat mooring is a temporary or permanently fixed or floating anchored facility in a water body for the purpose of attaching a boat.	N/A	N/A	N/A	N/A
7:7-12.13	Sand and Gravel Mining – This policy discourages sand and gravel mining.	N/A	N/A	N/A	N/A
7:7-12.14	Bridges - This policy regulates construction or maintenance of bridges to prevent potential adverse environmental effects on shellfish habitat, fish spawning grounds and migratory pathways, destruction of wetlands as well as aesthetic and air quality impacts.	N/A	N/A	N/A	N/A
7:7-12.15	Submerged Pipelines - This policy regulates installation of submerged pipelines to protect ecosystem and environmentally sensitive areas.	N/A	N/A	N/A	N/A
7:7-12.16	Overhead Transmission Lines – This policy discourages overhead transmission lines because the visual impact is so great that it counters the scenic resources and design rule at N.J.A.C. 7:7-16.10.	N/A	N/A	N/A	N/A
7:7-12.17	Dams and Impoundments – This policy regulates the construction of dams and impoundments.	N/A	N/A	Y	N/A
7:7-12.18	Outfalls and Intakes – This policy regulates outfalls and intakes	N/A	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
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. This does not include the re-bulkheading of a previously bulkheaded water area or the bulkheading at or above the spring high water line.	Y	Y	Y	N/A
7:7-12.20	Breakwaters – This policy regulates breakwaters, including, but not limited to, those constructed of concrete, rubble mound and timber, are structures designed to protect shoreline areas or boat moorings by intercepting waves and reducing the wave energy which would normally impact the adjacent shoreline areas or boat mooring areas.	Y	Y	Y	N/A
7:7-12.21	Vertical wake or wave attenuation structures – This policy regulates wave attenuating structures to protect boat moorings.	N/A	N/A	N/A	N/A
7:7-12.22	Submerged Cables - This policy establishes conditions that must be met by submerged cables, defined as underwater lines such as telecommunication cables or electrical transmission lines.	N/A	N/A	N/A	N/A
7:7-12.23	Artificial Reefs – This policy protects artificial reefs.	N/A	N/A	N/A	N/A
7:7-12.24	Living Shorelines - This policy regulates living shorelines that addresses the loss of vegetated shorelines and habitat in the littoral zone by providing for the protection, restoration or enhancement of these habitats.	Y	Y	Y	N/A
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 (7:7-15).	N/A	N/A	N/A	N/A
7:7-13A	Impervious Cover Limits Upland Waterfront Development Area - This subchapter sets the impervious cover limits and vegetative cover percentages for sites in the upland waterfront development area.	Y	Y	Y	N/A
7:7-13A	Impervious Cover Limits CAFRA Area - This subchapter sets the impervious cover limits and vegetative cover percentages for sites in the CAFRA area.	N/A	N/A	N/A	N/A
7:7-14.1	Rule on Location of Linear Development - This rule sets conditions for acceptability of linear development.	N/A	N/A	N/A	N/A
7:7-14.2	Basic Location Rule - This rule states that NJDEP may reject or conditionally approve a project as reasonably necessary to: promote the public health, safety, and welfare; protect public and private property, wildlife and marine fisheries; and preserve, protect and enhance the natural environment.	Y	Y	Y	N/A
7:7-14.2	Secondary Impacts - This rule requirements for secondary impact analysis.	Y	Y	Y	N/A
7:7-15.2	Housing Use Rules - These rules set standards for housing construction in the coastal area.	N/A	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-15.3	Resort/Recreational Use - This rule sets standards for resort and recreational uses in the coastal area, which includes hotels, motels, marinas, boating facilities, campgrounds, amusement piers, parks and recreational structures such as bathhouses, natural areas, open space for active and passive recreation, and linear paths for bicycling and jogging.	N/A	N/A	N/A	N/A
7:7-15.4	Energy Facility Use Rule - This rule sets standards for energy facilities in the coastal area. Energy facilities include facilities, plants or operations for the production, conversion, exploration, development, distribution, extraction, processing, or storage of energy or fossil fuels. Energy facilities also include onshore support bases and marine terminals. Energy facilities do not include operations conducted by a retail dealer, such as a gas station, which is considered a commercial development.	N/A	N/A	N/A	N/A
7:7-15.5	Transportation Use Rule - This rule sets standards for roads, public transportation, footpaths, and parking facilities in the coastal area.	N/A	N/A	N/A	N/A
7:7-15.6	Public facility use rule - This rule sets standards for public facilities (e.g., solid waste and wastewater treatment facilities) in the coastal area.	N/A	N/A	N/A	N/A
7:7-15.7	Industry Use Rule - This rule sets standards for industrial uses in the coastal area, including (but not limited to) electric power production, food and food by-product processing, paper production, agri-chemical production, chemical processes, storage facilities, metallurgical processes, mining and excavation processes, and processes using mineral products.	Y	Y	Y	N/A
7:7-15.8	Mining Use Rule - This rule sets standards for mining in the coastal area.	N/A	N/A	N/A	N/A
7:7-15.9	Port Use Rule - This rule sets standards for port uses and port-related development. The standards are designed to ensure that port facilities retain their economic vitality.	Y	Y	Y	N/A
7:7-15.10	Commercial Facility Use Rule - This rule sets standards for commercial facilities such as hotels, casinos, retail trade, and convention centers in the coastal zone.	N/A	N/A	N/A	N/A
7:7-15.11	Coastal Engineering - This rule sets standards for the protection of shoreline and the maintenance of dunes and provides rules for beach nourishment.	Y	Y	Y	N/A
7:7-15.12	Dredged material placement on land - This rule sets standards for the placement of dredged materials, defined as the disposal or beneficial use of sediments removed during dredging operations.	Y	Y	Y	N/A
7:7-15.13	National Defense Facility Use Rule - This rule sets standards for the location of defense facilities in the coastal zone.	N/A	N/A	N/A	N/A

Policy	Statement	Planning Regions			
		Hackensack/Passaic	Lower Hudson/East River	Upper Bay/Arthur Kill	Lower Bay
7:7-15.14	High Rise Structures - This rule sets standards for high-rise structures in the coastal zone. High-rise structures are structures which are more than six stories or more than 60 feet in height as measured from existing preconstruction ground level.	N/A	N/A	N/A	N/A
7:7-16.2	Marine Fish and Fisheries - This rule sets standards of acceptability so as to cause minimal interference with the reproductive and migratory patterns of estuarine and marine species of finfish and shellfish.	Y	Y	Y	N/A
7:7-16.3	Water Quality - This rule sets standards for coastal development so as to limit effects on water quality.	Y	Y	Y	N/A
7:7-16.4	Surface Water Use - This rule sets standards for coastal development so as to limit effects on surface water.	Y	Y	Y	N/A
7:7-16.5	Ground Water Use - This rule sets standards for coastal development so as to limit effects on ground water supplies.	Y	Y	Y	N/A
7:7-16.6	Stormwater Management - This rule sets standards for coastal development so as to limit effects on stormwater runoff.	Y	Y	Y	N/A
7:7-16.7	Vegetation - This rule sets standards for coastal development so as protect vegetation	Y	Y	Y	N/A
7:7-16.8	Air Quality - This rule sets standards for coastal development with requirements that projects meet applicable air quality standards.	Y	Y	Y	N/A
7:7-16.9	Public Access to the Waterfront - This rule 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.	Y	Y	Y	N/A
7:7-16.10	Scenic Resources and Design - This rule sets standards for new coastal development to be visually compatible with its surroundings.	Y	Y	Y	N/A
7:7-16.11	Buffers and Compatibility of Uses - This rule sets standards for adequate buffers between uses found to be incompatible.	N/A	N/A	N/A	N/A
7:7-16.12	Traffic - This rule sets standards for coastal development so as not to disturb traffic systems.	N/A	N/A	N/A	N/A
7:7-16.13	Subsurface sewage disposal systems - This rule sets standards for subsurface sewage disposal systems in the coastal zone.	N/A	N/A	N/A	N/A
7:7-16.14	Solid and hazardous waste -This rule requires that coastal development conforms to all applicable State and Federal regulations, standards and guidelines for the handling and disposal of solid and hazardous wastes.	Y	Y	Y	N/A
7:7-17	Mitigation – This subchapter details the requirements of mitigation.	Y	Y	Y	N/A

Notes: Y – policy is applicable to Planning Region and project will be compliant; N – policy is applicable to Planning Region and project will not be compliant; N/A – policy is not applicable to the proposed NYNJHAT study.

The Capital District, Mid-Hudson, Long Island Sound and JB Planning Regions are not in NJ so have not been included in this table. No features or secondary effects are expected in Raritan Planning Region therefore it has not been included in this table.

## **6.1 Subchapter 9. Special Areas**

Special Areas are both natural and human-built areas that are important for human use, potentially sensitive to impact, or particular in their planning requirements, as to merit focused attention and special management rules. This subchapter divides Special Areas into four categories: Category 1 Special Water Areas (7:7E-9.2 through 9.15), which extend landward to the spring high water line or the level of normal flow in non-tidal waters, Category 2 Special Water's Edge Areas (7:7E-9.16 through 9.30), which are found adjacent to tidal as well as non-tidal waters, Category 3 Special Land Areas (7:7E-9.31 through 9.33), generally are landward of the Special Water's Edge Areas, and Category 4 Coastwide Special Areas (7:7E-9.34 through 9.47, which and may include Special Water Areas, Special Water's Edge Areas or Special Land Areas.

### 7:7E-9.2 Shellfish Habitat

*This policy generally limits disturbance of shellfish habitat.*

The footprint of the TSP is not in any shellfish habitat mapped by NJDEP, therefore this policy is not applicable.

### 7:7E-9.3 Surf Clam Areas

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

This policy is not applicable because the TSP footprints aren't located in or near surf clam areas.

### 7:7E-9.4 Prime Fishing Areas

*This policy prohibits submarine mining of sand or gravel in prime fishing areas.*

This policy is not applicable, because the TSP does not involve submarine mining of sand or gravel in any area, including prime fishing areas.

### 7:7E-9.5 Finfish Migratory Pathways

*This policy prohibits developments, such as dams or dikes that would create permanent physical barriers to migratory fish. Developments that would lower water quality, so as to interfere with fish movement patterns, are also prohibited.*

The TSP will implement construction BMPs and other protective measures, such as seasonal in-water work restrictions, to minimize impacts to migratory fish or water quality. The temporary closure of tidal barriers or gates during a storm event has the potential to temporarily block tidal flow. However, barriers included in the TSP, if included in the final design, would remain open except during severe storm events, and therefore would not hinder the migration of finfish. Therefore, the TSP is consistent with this policy.

### 7:7E-9.6 Submerged Vegetation Habitat.

*This policy prohibits development in submerged vegetation habitat, except for utility trenching or dredging, provided that there is no practicable or feasible alternative to avoid the vegetation, and that impacts to the habitat area are minimized to the maximum extent practicable.*

No mapped submerged aquatic vegetation (SAV) exists within the footprints of the TSP. SAV habitat is mapped on the bay side of Sandy Hook, within the Gateway Recreation Area (NJDEP 1979). SAV habitat was also documented in the Navesink and Shrewsbury Rivers in 1983, 1980 and 2015. Shallow water habitats of the lower HR, including Haverstraw Bay, also have mapped SAV, however they are not near the TSP measures.

Modeling data for the effects of SSBs and other structures on SAV is required to more accurately categorize potential impacts and indirect impacts to SAV habitat. Modeling the level of sea rise, sedimentation rates, and possible back-flooding behind the barrier gates due to heavy rain will further characterize potential impacts to SAV during the Final Feasibility Report/Tier 1 EIS. Through the Tier 2 process, management actions will be identified to avoid, minimize, or mitigate impacts to SAV associated with those alternatives. Therefore, the TSP would be consistent with this policy.

#### 7:7E-9.7                      Navigation Channels

*This policy prohibits construction that would extend into a navigation channel and restrict dredging in navigation channels.*

The TSP includes placement of in-water structures, including tide gates and barriers. Any barrier will be carefully engineered to reduce its impact to vessel traffic. There would be no impacts to navigation when the barriers are in the open position. Impacts to navigation and dredging in navigation channels are not expected when the barriers are closed during large storm events, because these activities (navigation and dredging) are not anticipated to occur during large storm events. Once the barriers are re-opened, navigation and dredging could continue, resulting in no long-term permanent impacts. Therefore, the TSP would be consistent with this policy.

#### 7:7E-9.8                      Canals

*This policy prohibits actions that would interfere with boat traffic in canals used for navigation.*

The TSP is not within a canal as defined by NJDEP, and therefore this policy is not applicable.

#### 7:7E-9.9                      Inlets

*This policy prohibits filling and discourages submerged infrastructure in coastal inlets.*

The TSP is not within an inlet as defined by NJDEP, and therefore this policy is not applicable.

#### 7:7E-9.10                    Marina Moorings

*This policy prohibits non-water-dependent development in marina mooring areas.*

The TSP would not involve development in any marina mooring areas, and therefore this policy is not applicable.

7:7E-9.11      Ports

*This policy prohibits uses within a port that preempt or interfere with typical port uses and encourages docks and piers for cargo movements.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to port facilities and uses from impacts associated with sea level rise, storm surges, and coastal flooding.

7:7E-9.12      Submerged Infrastructure Routes

*This policy prohibits any activity that would increase the likelihood of damaging submerged infrastructure (pipelines, cables) or interfering with maintenance operations.*

The TSP would be sited to avoid existing infrastructure. If the TSP cannot avoid submerged infrastructure routes then crossing agreements would be utilized to mitigate impacts. Therefore, the TSP is consistent with this policy.

7:7E-9.13      Shipwrecks and Artificial Reefs

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

The TSP is not expected to impact known shipwrecks or artificial reefs, however cultural and natural resource surveys will be conducted in the Tier 2 process and would identify and avoid these areas. Therefore, the TSP is consistent with this policy.

7:7E-9.14      Wet Borrow Pits

*This policy restricts the use and filling of underwater borrow pits.*

The NYNJHAT Study Area does not include wet borrow pits. Therefore, this policy is not applicable.

7:7E-9.15      Intertidal and Subtidal Shallows

*This policy discourages disturbance of shallow-water areas (i.e., permanently or twice daily submerged areas from the spring high tide to a depth of up to -four feet below mean low water).*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to shallow water areas, including intertidal and subtidal shallow habitats, from impacts associated with sea level rise, storm surges, and coastal flooding.

The TSP includes SSBs and tide gates. Construction of these measures would involve excavation and fill and/or the presence of a new foundation or structure. The SSBs and tide gates could cause water depth modifications following installation and water depth changes in the area surrounding the hardened structures due to sedimentation and scour. Modeling of the potential impacts to intertidal and subtidal shallows as a result of the presence of SSBs and other structures will be updated in the Final Integrated Tier 1 EIS. The Tier 2 design will be a refinement of the TSP and will avoid and minimize potential impacts to intertidal and subtidal habitats. Mitigation may be required for intertidal and subtidal impacts and will be determined in the Tier 2 process.

7:7E-9.16      Dunes

*This policy protects and preserves ocean and bayfront dunes.*

The TSP would not involve construction on ocean or bayfront dunes in NJ, therefore this policy is not applicable.

7:7E-9.17      Overwash Areas

*Overwash areas are areas 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. An overwash area may, through stabilization and vegetation, become a dune. This policy restricts development in overwash areas, due to their sensitive nature.*

The TSP would not involve construction in or near overwash areas in NJ, therefore this policy is not applicable.

7:7E-9.18      Coastal High-Hazard Areas

*This policy restricts development in coastal high-hazard (i.e., flood-prone) areas.*

The TSP is consistent with this policy because it provides CSRM features that reduce the risk to coastal high-hazard areas from impacts associated with sea level rise, storm surges, and coastal flooding that would occur without the TSP.

Reducing this risk may require constructing TSP measures in coastal high-hazard areas. TSP measures are expected to impact high-hazard areas temporarily and permanently. Temporary construction impacts would be managed through implementation of a site-specific SWPPP and construction BMPs. Excavation and fill activities associated with the measures may permanently impact high-hazard areas through removal of vegetation and filling. Foundation installation may cause long-term permanent impacts to high-hazard areas through vegetation removal and habitat conversion to impervious surfaces.

7:7E-9.19      Erosion Hazard Areas

*This policy prohibits development under most circumstances in erosion-prone areas except to protect public safety.*

The TSP is consistent with this policy because it provides CSRM features that protect erosion-prone areas from impacts associated with sea level rise, storm surges, and coastal flooding that would occur without the TSP.

Different TSP project measures may have different construction and operation impacts to erosion-prone areas and may cause temporary inundation, primarily associated with closed flood barriers. As the measures become more defined, mitigation planning for long-term, unavoidable impacts will be evaluated during the Tier 2 EIS.

7:7E-9.20      Barrier Island Corridor



*This policy restricts new development on barrier island corridors.*

The TSP footprint is not located on a barrier island corridor, and therefore this policy is not applicable.

7:7E-9.21 Bay Islands

*This policy restricts development on bay islands.*

The TSP does not contain any bay islands, and therefore this policy is not applicable.

7:7E-9.22 Beaches

*This policy restricts development on beaches.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to flood-prone areas, including some beaches, from impacts associated with sea level rise, storm surges, and coastal flooding.

Temporary construction impacts are expected with some project measures. Permanent impacts may also occur from conversion from small areas of beaches to flood protection structures. However, beneficial long-term impacts are anticipated once measures are constructed and increase in the size of recreational beach areas, minimize long-term requirements for beach nourishment, and minimize the loss of native shoreline habitats as a result of storm surges.

7:7E-9.23 Filled Water's Edge

*This policy seeks to promote water-dependent uses at waterfront areas that have been previously filled or modified for commercial activity.*

The TSP is consistent with this policy because it would not obstruct water-dependent uses of the policy-defined waterfront areas for commercial activity.

7:7E-9.24 Existing Lagoon Edges

*This policy restricts development at lagoon edges because of potential water quality problems.*

The TSP footprint is not located within any lagoon edges; therefore, this policy is not applicable.

7:7E-9.25 Flood Hazard Areas

*This policy is designed to restrict development in flood hazard areas and to ensure that the waterfront is not pre-empted by uses that could function equally well at inland locations.*

The TSP will affect and will be located in flood and erosion hazard areas. However, the TSP includes a combination of non-structural measures as well as levees, SSBs, seawalls, and dune structures. Accordingly, as structural measures (ex. levees, seawall) are likely necessary to minimize damage to these coastal resources from coastal storms similar to Hurricane Sandy, non-structural measures are also included, where feasible, as applicable. The proposed activities are consistent to the maximum extent practicable with this policy. The TSP is consistent with this policy because several of the TSP measures

are non-structural. The Tier 2 EIS will include analysis to further identify mitigation for impacts to natural resources and property associated with construction and operation of all measures, including non-structural as well as structural.

7:7E-9.26      *Riparian Zone*

*This policy restricts development in riparian zones in order to protect water quality and the health of fish and wildlife.*

The TSP will affect and will be located in riparian zones. However, the TSP includes a combination of non-structural measures as well as levees, SSBs, seawalls, and dune structures. Accordingly, as structural measures (ex. levees, seawall) are likely necessary to minimize damage to these coastal resources from coastal storms similar to Hurricane Sandy, non-structural measures are also included, where feasible, as applicable. The proposed activities are consistent to the maximum extent practicable with this policy. The Tier 2 EIS will include analysis to further identify mitigation for impacts to natural resources and property associated with construction and operation of all measures, including non-structural as well as structural.

7:7E-9.27      *Wetlands*

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

The TSP is consistent with this policy because it provides CSRM features that reduce risk to wetlands otherwise subject to impacts associated with sea level rise, storm surges, and coastal flooding.

Excavation and fill activities associated with some TSP measures may permanently impact wetlands and their transition zones through removal of vegetation and filling. The SSBs and tide gates could cause permanent changes in hydrology which could lead to secondary impacts to wetlands through scouring or sedimentation. The Tier 2 design will be a refinement of the TSP and will avoid and minimize potential impacts to wetlands. Remaining impacts to wetlands will be quantified during the Tier 2 evaluation. However, beneficial long-term impacts to wetlands from the wetland creation and restoration measures are anticipated. As the project measures become more defined and site-specific surveys are completed, areas of wetland creation and restoration will be determined. This information will be included in the development of the Tier 2 EIS. The USACE will adopt all acceptable mitigation measures and continue coordination with the affected state and resource agencies, as appropriate, and as is required under the CWA and CZMA, as delegated to the authorization and permitting jurisdictions of the affected state, and ensure implementation of the mitigation plan concurrent with construction of the project.

7:7E-9.28      *Wetland Buffers*

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

As described in Policy 7:7E-9.27, the TSP may permanently impact wetland buffers through removal of vegetation and filling. However, beneficial long-term impacts to wetland buffers from the wetland

creation and restoration measures are anticipated. As the project measures become more defined and site-specific surveys are completed, areas of wetland and wetland buffer creation and restoration will be determined. This information will be included in the development of the Tier 2 EIS. The USACE will adopt all acceptable mitigation measures and continue coordination with the affected state and resource agencies, as appropriate, and as is required under the CWA and CZMA, as delegated to the authorization and permitting jurisdictions of the affected state and ensure implementation of the mitigation plan concurrent with construction of the project. The TSP would therefore be consistent with this policy.

7:7E-9.29 Coastal Bluffs

*This policy restricts development on coastal bluffs, defined as steep slopes (greater than 15 percent) of rock or sand, gravel sediment which are adjacent to the shoreline or which are demonstrably associated with shoreline processes.*

The NYNJHAT Study Area does not contain coastal bluffs; therefore, this policy is not applicable.

7:7E-9.30 Intermittent Stream Corridors

*This policy restricts action in intermittent stream corridors.*

As described in Policy 7:7E-9.27, the TSP is consistent with this policy, because it provides CSRM features that reduce the risk to intermittent stream corridors otherwise subject to impacts associated with sea level rise, storm surges, and coastal flooding.

However, construction and operation of TSP proposed measures may permanently impact selected intermittent stream corridors through filling. As the project measures become more defined and site-specific surveys are completed, areas of stream corridor impacts will be assessed and minimized and mitigation and restoration will be determined. This information will be included in the development of the Tier 2 EIS. The USACE will adopt all acceptable mitigation measures and continue coordination with the affected state and resource agencies, as appropriate, and as is required under the CWA and CZMA, as delegated to the authorization and permitting jurisdictions of the affected state and ensure implementation of the mitigation plan concurrent with construction of the project.

7:7E-9.31 Farmland Conservation Areas

*This policy seeks to preserve large parcels of land used for farming.*

The NYNJHAT Study Area does not contain farmland conservation areas, therefore this policy is not applicable.

7:7E-9.32 Steep Slopes

*This policy seeks to preserve steep slopes by restricting development in such areas. Steep slopes are land areas with slopes greater than 15 percent, which are not adjacent to the shoreline.*

The NYNJHAT Study Area does not contain steep slopes, therefore this policy is not applicable.

7:7E-9.33 Dry Borrow Pits

*This policy restricts the excavation and filling of upland or dry borrow pits.*

The NYNJHAT Study Area does not contain nor is it proposed to contain dry borrow pits. All applicable agency guidelines and permit requirements will be met if dry borrow pits are used for dredge material placement. Therefore, the TSP is consistent with this policy.

7:7E-9.34      *Historic and Archeological Resources*

*This policy seeks to preserve historic and archaeological resources include objects, structures, shipwrecks, buildings, neighborhoods, districts, and man-made or man-modified features of the landscape and seascape, including historic and prehistoric archaeological sites, which either are on or are eligible for inclusion on the New Jersey or National Register of Historic Places.*

The TSP is consistent with this policy, as it will provide protection during storm surges and flooding to structures or sites that are of historic, archeological, architectural or cultural significance. In the Tier 2 assessment, consultation with NJ State Historic Preservation Officer (NJSHPO) and the NY State Historic Preservation Officer (NYSHPO) would be conducted for selected project measures to determine if site-specific cultural resource surveys are warranted.

7:7E-9.35      *Specimen Trees*

*This policy seeks to protect specimen trees as defined by NJDEP.*

The TSP footprint does not contain specimen trees, and therefore the TSP is consistent with this policy. Several specimen trees are present within the NYNJHAT Study Area, if the measures change as the design is refined in Tier 2, impacts to specimen trees will be avoided and minimized.

7:7E-9.36      *Endangered and Threatened Wildlife or Vegetation Habitats*

*This policy restricts development in areas known to harbor endangered or threatened wildlife or vegetation species.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to wildlife and habitats otherwise subject to impacts associated with sea level rise, storm surges, and coastal flooding.

The TSP could potentially have a short term, localized and temporary adverse impacts to these resources during the construction phase. BMPs, such as utilizing protective equipment (i.e. turtle exclusion devices) and implementing protective seasonal restrictions for selected species (e.g. winter flounder and piping plover) in areas determined to be appropriate, such as migratory corridors, spawning or nesting habitat, and feeding grounds, would be coordinated with the affected states, regulators and resource agencies, and integrated into construction plans and specifications, as appropriate. As the project measures become more defined, site-specific surveys and consultations with regulatory agencies will be conducted during the Tier 2 EIS assessment to identify impacts to threatened and endangered species and their habitats. The Endangered Species Act consultation appendices provide details on potential impacts to Federally and State listed species.

7:7E-9.37      *Critical Wildlife Habitats*

*Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating. Such habitats include rookeries and stopovers for birds, natural corridors for wildlife movement, and ecotones (edges between two types of habitats). This policy discourages development that would impact critical wildlife habitat.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to critical wildlife habitats otherwise subject to impacts associated with sea level rise, storm surges, and coastal flooding. As project measures become more defined in Tier 2, critical wildlife habitats will be avoided and minimized to the extent practicable.

7:7E-9.38      *Public Open Space*

*This policy encourages the development of new public open spaces and discourages development that might adversely affect existing public open space.*

The TSP is consistent with this policy, as its goals are to reduce the risk of flooding to flood prone areas, including those public open spaces or lands immediately adjacent to the water's edge.

7:7E-9.39      *Special Hazard Areas*

This policy discourages development in Special 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, such as the navigable air space around airports and seaplane landing areas, potential evacuation zones, and areas where hazardous substances as defined at N.J.S.A. 58:10-23.11b are used or disposed, including adjacent areas and areas of hazardous material contamination.

The TSP is consistent with this policy because it reduces coastal storm risk to coastal areas that could be potential evacuation zones from impacts associated with sea level rise, storm surges, and coastal flooding by adding shore-based and in-water features.

7:7E-9.40      *Excluded Federal Lands*

*Federal lands are beyond the jurisdiction of the New Jersey Coastal Zone. New Jersey has the authority to review activities on Federal lands if there may be spillover impacts on New Jersey's Coastal Zone.*

Gateway National Recreation Area is classified as an Excluded Federal Land. The TSP will not occur within Sandy Hook Gateway National Recreation Area or any other Federal Land in NJ, therefore this policy is not applicable.

7:7E-9.41      *Special Urban Areas*

*This policy seeks to encourage waterfront development that would benefit certain municipalities that receive state aid.*

Special urban areas located within the NYNJHAT Study Area include Bayonne, Elizabeth, Jersey City, and Newark.

The TSP is consistent with this policy because it provides CSRM features that reduce the risk to these areas from impacts associated with sea level rise, storm surges, and coastal flooding. Thus, the TSP would provide indirect economic benefits to these areas as a result of reduced risk.

7:7E-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.*

The NYNJHAT Study Area is not located within the Pinelands; therefore, this policy is not applicable.

7:7E-9.43      *Hackensack Meadowlands District*

*This policy allows the New Jersey Meadowlands Commission (NJMC) to serve as the reviewing agency for actions within the Hackensack Meadowlands District.*

Portions of the TSP are located in the Hackensack Meadowlands District, including a proposed berm. Any impacts or effects as selected in the Tier 2 analysis will be coordinated with and approved by NJMC. Therefore, the TSP would comply with this policy.

7:7E-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.*

The NYNJHAT Study Area is not located within a NJ wild and scenic river corridor, therefore this policy is not applicable.

7:7E-9.45      *Geodetic Control Reference Marks*

*This policy discourages disturbance of geodetic control reference marks.*

No geodetic control reference marks will be disturbed as a result of the TSP. Therefore, the TSP will be consistent with this policy.

7:7E-9.46      *Hudson River Waterfront Area*

*This policy sets forth non-industrial and industrial development standards for public access and open space along the Hudson River Waterfront Area, and requires development, maintenance, and management of a section of the Hudson Waterfront Walkway coincident with the shoreline of the development property.*

Portions of the TSP are within the boundaries of the HR Waterfront Area, in Jersey City. Even though the TSP isn't considered a development, the structures proposed in the HR Waterfront Area, at this stage of design, are elevated promenades that are designed to provide waterfront access. The proposed measures will also have a long-term beneficial impact of reducing the risk associated with sea level rise, storm surges, and coastal flooding to the existing waterfront development in Jersey City and other HR areas. Therefore, the TSP is consistent with and promotes this policy.

7:7E-9.47      Atlantic City

*This policy establishes restrictions and prohibitions within the municipal boundary of the City of Atlantic City.*

The NYNJHAT Study Area is not within this boundary, therefore the policy is not applicable.

7:7E-9.48      Lands and Waters Subject to Public Trust Rights

*This policy seeks to protect 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 line.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to these lands and waters from impacts associated with sea level rise, storm surges, and coastal flooding.

The TSP includes SSBs, tide gates and several shore-based measures. Construction of these measures would involve excavation and fill and/or the presence of a new foundation or structure. The SSBs and tide gates could cause water depth modifications following installation and water depth changes in the area surrounding the hardened structures due to sedimentation and scour. Modeling of the potential impacts to intertidal and subtidal shallows as a result of the presence of SSBs and other structures will be updated in the Final Integrated Feasibility Report/Tier 1 EIS. The Tier 2 design will be a refinement of the TSP and will avoid and minimize potential impacts to these lands and waters. Mitigation may be required impacts and will be determined in the Tier 2 process.

7:7E-9.49      Dredged Material Management Area

*This policy discourages changes in land use of a dredge material management area.*

This Policy is not applicable to the TSP because it will not change the existing land use.

## **6.2 Subchapter 10 - Standards for Beach and Dune Activities**

*These standards apply to routine beach maintenance, emergency post-storm beach restoration, dune creation and maintenance, and construction of boardwalks.*

The TSP is not located within a beach or dune area in NJ, therefore this policy is not applicable.

## **6.3 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 Wildlife Species Habitat Evaluation**

*This subchapter sets standards for conducting an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and for conducting an Endangered or Threatened Wildlife Species Habitat Evaluation.*

One or both must be employed to demonstrate compliance with or inapplicability of 7:7E-9.36 (Endangered and Threatened Wildlife or Vegetation Habitats) when the site contains or abuts areas mapped as endangered or threatened wildlife species habitat on the NJDEP Landscape Maps. As the project measures become more defined, site-specific surveys and consultations with regulatory agencies will be conducted during the Tier 2 EIS assessment to identify impacts to threatened and endangered species or their habitats. Therefore, the TSP will be consistent with this policy.

## **6.4 Subchapter 12 - General Water Areas**

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 water that are subject to this subchapter and to Special Area rules.

General water areas within the NYNJHAT Study Area include:

- Large tidal river – HR, Hackensack River, Passaic River
- Open bay –Newark Bay and Upper NY Bay
- Tidal gut – the Kill Van Kull and Arthur Kill

### 7:7E-12.2 Shellfish Aquaculture

*Shellfish aquaculture is the use of permanently inundated water areas, whether saline or fresh, for the purposes of growing and harvesting plants or animals in a way to promote more rapid growth, reduce predation, and increase harvest rate.*

The TSP does not involve aquaculture, therefore the policy is not applicable.

### 7:7E-4.3 Boat Ramps

*Boat ramps are inclined planes, extending from the land into a water body for the purpose of launching a boat into the water until the water depth is sufficient to allow the boat to float.*

Boat ramps will not be constructed under the TSP, therefore the policy is not applicable.

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

*Docks and piers for cargo and passenger movement and commercial fisheries are structures supported on pilings driven into the bottom substrate or floating on the water surface, used for loading and unloading passengers or cargo, including fluids, connected to or associated with, a single industrial or manufacturing facility or to commercial fishing facilities.*

No additional docks or piers will be constructed as part of the TSP. This policy is not applicable.

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

*Recreational and fishing docks and piers are structures supported on pilings driven into the bottom substrate, or floating on the water surface or cantilevered over the water, which are used for recreational fishing or for the mooring of boats or jet skis used for recreation or fishing, except for commercial fishing, and house boats.*



No additional docks or piers will be constructed as part of The TSP. Therefore, the policy is not applicable.

7:7E-12.6          Maintenance dredging

*Maintenance dredging is the removal of accumulated sediment from previously authorized and legally dredged navigation and access channels, marinas, lagoons, canals or boat moorings for the purpose of maintaining a previously authorized water depth and width for safe navigation. To be considered maintenance dredging, the proposed dredge area must be limited to the same depth, length and width as the previous dredging operation. This policy also restricts reprofiling, the movement of material from one area of a berth or channel to an adjacent, deeper location.*

The TSP is not considered maintenance dredging, therefore this policy is not applicable.

7:7E-12.7          New dredging

*New dredging is the removal of sediment that does not meet the definition of maintenance dredging as defined in 7:7E-12.6.*

New dredging will likely be required with several of the TSP measures. As the project measures become more defined in the Tier 2 EIS assessment, impacts associated dredging will be determined. Adverse environmental impacts will be minimized to the maximum extent feasible through BMPs, such as closed clamshell mechanical dredge buckets and slow hoist speeds. There will be no barge overflow, unless approved through state water quality conditions, nor will there be any overboard disposal, dumping or filling with any materials related to the dredging operations. Mitigation activities will occur as necessary. All conditions specified under this policy will be met. Therefore, the TSP is consistent with this policy.

7:7E-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.*

The TSP does not involve any environmental dredging therefore this policy is not applicable.

7:7E-12.9          Dredged material disposal

*This policy sets the standards relevant to dredged material disposal in water areas.*

The TSP measures that generate excess dredge materials as part of the construction process would test all dredged material to determine the appropriate disposal methods. The disposal approach will be communicated to appropriate regulatory authorities and approval will be obtained before the materials is scheduled for removal and disposal. Dredged materials will be beneficially used to the extent possible (e.g., habitat enhancement, abandoned landfill and brownfield remediation). Soft material will be classified as either Historic Area Remediation Site (HARS)-suitable or HARS-unsuitable. HARS-

unsuitable material will be treated/amended and used beneficially as well, when practical. Rock will be used to establish new or enhance existing reefs, according to state guidelines. Dredging and dredged material disposal would meet the acceptability conditions for both of these applicable standards in accordance with the USACE Dredge Material Management Plan. The TSP is therefore consistent with this policy.

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

*This policy prohibits the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area.*

The TSP does not involve solid waste or sludge dumping, therefore this policy is not applicable to this project.

7:7E-12.11      *Filling*

*This policy restricts the deposition of material including sand, soil, earth, and dredged material into water areas for the purpose of raising water bottom elevations to create land areas.*

The TSP would require placement of fill for the construction of selected measures, such as a new sea wall or levee structures or SSBs and tide gates. Temporary construction impacts would be managed through implementation of a site-specific SWPPP and construction BMPs. Final design drawings will include potential changes in elevation and will be included in the Tier 2 EIS, therefore the TSP is consistent with this policy.

7:7E-12.12      *Mooring*

*A boat mooring is a temporary or permanently fixed or floating anchored facility in a water body for the purpose of attaching a boat.*

No boat moorings will be constructed as a result of the TSP. Therefore, the policy is not applicable.

7:7E-12.13      *Sand and gravel mining*

*This policy discourages sand and gravel mining.*

The TSP does not involve sand or gravel mining. Therefore, the policy is not applicable.

7:7E-12.14      *Bridges*

*This policy regulates construction or maintenance of bridges to prevent potential adverse environmental effects on shellfish habitat, fish spawning grounds and migratory pathways, destruction of wetlands as well as aesthetic and air quality impacts.*

The TSP does not involve the construction of new bridges, or the alteration of existing bridges. Therefore, the policy is not applicable.

7:7E-12.15      *Submerged pipelines*

*This policy regulates installation of submerged pipelines to protect ecosystem and environmentally sensitive areas.*

The TSP does not involve the installation of submerged pipelines. Therefore, the policy is not applicable.

7:7E-12.16      *Overhead transmission lines*

*This policy discourages overhead transmission lines because the visual impact is so great that it counters the scenic resources and design rule at N.J.A.C. 7:7-16.10.*

The TSP does not involve the installation of overhead transmission lines. Therefore, the policy is not applicable.

7:7E-12.17      *Dams and impoundments*

*This policy regulates the construction of dams and impoundments.*

The TSP involves construction of selected flood control structures that, during storm surges and flooding periods, will be used to impound water to protect communities and coastal habitats from flooding.

The barriers/tide gates in the open position may cause localized impacts to bathymetry due to changes in sediment scour and deposition in proximity to the barrier/gate structure. When the barriers/gates are in the closed position, minor temporary impacts could occur depending on closure durations.. However, a long-term beneficial impact of the SSBs would be reducing risk of flooding from rising sea levels. Beneficial impacts to shoreline elevations could occur during SSB closure to reduce the risk of flooding and subsequent erosion. Therefore, the proposed TSP is consistent with this policy.

7:7E-12.18      *Outfalls and intakes*

*This policy regulates outfalls and intakes.*

The TSP does not involve the siting or construction of any facility requiring intake of water or discharge of sewage, stormwater, or industrial effluents. Therefore, the policy is not applicable.

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

*Realignment of water areas means the physical alteration or relocation of the surface configuration of any water area. This does not include the re-bulkheading of a previously bulkheaded water area or the bulkheading at or above the spring high water line.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to communities and natural resources from impacts associated with sea level rise, storm surges, and coastal flooding.

This reduced risk may be achieved by physical measures that temporarily realign floodwaters and storm surges by preventing the inundation of coastal and low lying areas, which would be a net benefit to the community or resource at a reduced risk. Selected measures, such as barriers and tide gates, when in the closed position, have the potential to temporarily alter hydrology during a storm surge.

#### 7:7E-12.20 Breakwaters

*Breakwaters, including, but not limited to, those constructed of concrete, rubble mound and timber, are structures designed to protect shoreline areas or boat moorings by intercepting waves and reducing the wave energy which would normally impact the adjacent shoreline areas or boat mooring areas.*

The TSP includes measures that are considered breakwaters, including floodwalls, seawalls, deployable berms, and surge barriers. Design and construction of these structures will comply with all applicable rules, such that adverse impacts to the community and ecological habitats will be avoided or minimized. Construction impacts will be minimized through site-specific BMPs and SMPPS, therefore, the TSP is consistent with this policy.

#### 7:7E-12.21 Vertical wake or wave attenuation structures

*This policy regulates wave attenuating structures to protect boat moorings.*

The TSP does not involve the installation of vertical wake or wave attenuation structures to protect boat moorings, therefore this policy is not applicable.

#### 7:7E-12.22 Submerged cables

*This policy establishes conditions that must be met by submerged cables, defined as underwater lines such as telecommunication cables or electrical transmission lines.*

The TSP does not involve the installation of submerged cables. Therefore, the policy is not applicable.

#### 7:7E-12.23 Artificial reefs

*Artificial reefs are human-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 TSP will not impact artificial reefs, therefore this policy is not applicable.

#### 7:7E-12.24 Living Shorelines

*This policy regulates construction and placement of living shorelines that addresses the loss of vegetated shorelines and habitat in the littoral zone by providing for the protection, restoration or enhancement of these habitats.*

The TSP does not currently involve construction or placement of living shorelines. However, if the natural or nature based features developed in the Final Integrated FR/Tier 1 EIS include living shorelines, design and construction of these structures will comply with all applicable rules, such that vegetated shorelines would be at a reduced risk from coastal storm flooding and will therefore be consistent and promote this policy.

#### 7:7E-12.25 Miscellaneous uses

*Miscellaneous uses are uses of Water Areas not specifically defined in this section or addressed in the Use rules (7:7-15).*

The TSP involves uses that are specifically defined in this section. Therefore, this policy is not applicable.

## **6.5 Subchapter 13. Requirements for Impervious Cover and Vegetative Cover for General Land Areas and Certain Special Areas**

This subchapter, along with Subchapters 13A and 13B, sets forth requirements for impervious cover and vegetative cover on sites in the upland waterfront development area and in the CAFRA area. The upland waterfront area includes the area extending upland from the mean high water line of a tidal water body to the first paved public road, railroad, or property line, and its impervious cover limits and vegetative cover percentages are determined under Subchapter 12A. “CAFRA area” means the “coastal area” defined in the CAFRA at N.J.S.A. 13:19-4. The CAFRA area extends from NJ’s seaward territorial jurisdiction to an upland boundary specified in the code. The applicable impervious cover limits and vegetative cover percentages are determined under Subchapter 13B.

No TSP measures are within the CAFRA area, therefore no impacts are expected. However, most measures are partially or entirely located in upland waterfront development area and subject to is subject to the regulations set forth in the Waterfront Development Law (N.J.S.A. 12:5-3). Measures such as seawalls, bulkheads, levees and floodwalls may involve conversion of land to impervious cover, however these structures are generally in urbanized areas. As the project measures become more defined, impacts to NJ CZMA areas will be further evaluated during the Tier 2 EIS assessment, therefore the TSP is consistent with this policy.

### **6.5.1 Subchapter 13A. Impervious Cover Limits and Vegetative Cover Percentages in the Upland Waterfront Development Area**

*This subchapter sets the impervious cover limits and vegetative cover percentages for sites in the upland waterfront development area.*

As described under heading 2.1.3/Subchapter 13, as the TSP measures become more defined, impacts to the CAFRA area will be further evaluated during the Tier 2 EIS assessment, therefore the TSP is consistent with this policy.

### **6.5.2 Subchapter 13B. Impervious Cover Limits and Vegetative Cover Percentages in the CAFRA Area**

This subchapter sets impervious cover limits and vegetative cover percentages for sites in the CAFRA area.

As described above, none of the features in the TSP are within the CAFRA Area, therefore this policy is not applicable. \.

## **6.6 Subchapter 14 - General Location Rules**

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

*"Linear development" means a development with the basic function of connecting two points, such as a road, drive, public walkway, railroad, sewerage pipe, stormwater management pipe, gas pipeline, water pipeline, or electric, telephone or other transmission line. This rule sets conditions for acceptability of linear development.*

The TSP does not include linear development, therefore this policy is not applicable.

### 7:7E-6.2 Basic location rule

*This rule states that NJDEP may reject or conditionally approve a project as reasonably necessary to: promote the public health, safety, and welfare; protect public and private property, wildlife and marine fisheries; and preserve, protect and enhance the natural environment.*

The TSP is consistent with the location rule. The TSP is consistent with this policy because it provides CSRM features that reduce risk to the resources identified in this rule from impacts associated with sea level rise, storm surges, and coastal flooding.

### 7:7E-6.3 Secondary impacts

*This rule sets the requirements for secondary impact analysis.*

In accordance with NEPA, both direct, indirect, short-term, and long-term impacts will be evaluated during the Tier 2 EIS assessment. As the measures become more defined, mitigation planning for long-term, unavoidable secondary impacts will be evaluated during the Tier 2 EIS. The TSP is therefore consistent with this policy.

## **6.7 Subchapter 15 - Use Rules**

### 7:7E-15.2 Housing use rules

*These rules set standards for housing construction in the coastal area.*

The TSP does not involve housing construction, and therefore this policy is not applicable.

### 7:7E-15.3 Resort/recreational use

*This rule sets standards for resort and recreational uses in the coastal area, which includes hotels, motels, marinas, boating facilities, campgrounds, amusement piers, parks and recreational structures such as bathhouses, natural areas, open space for active and passive recreation, and linear paths for bicycling and jogging.*

The TSP does not involve resort or recreational uses, and therefore this policy is not applicable.

7:7E-15.4      Energy facility use rule

*This rule sets standards for energy facilities in the coastal area. Energy facilities include facilities, plants or operations for the production, conversion, exploration, development, distribution, extraction, processing, or storage of energy or fossil fuels. Energy facilities also include onshore support bases and marine terminals. Energy facilities do not include operations conducted by a retail dealer, such as a gas station, which is considered a commercial development.*

The TSP does not involve the construction or alteration of any energy facility. Therefore, this policy is not applicable.

7:7E-15.5      Transportation use rule

*This rule sets standards for roads, public transportation, footpaths, and parking facilities in the coastal area.*

The TSP does not involve construction of offsite roads, public transportation, footpaths, or parking facilities, and therefore this policy is not applicable.

7:7E-15.6      Public facility use rule

*This rule sets standards for public facilities (e.g., solid waste and wastewater treatment facilities) in the coastal area.*

The TSP does not involve construction of a public facility, and therefore this policy is not applicable.

7:7E-15.7      Industry use rule

*This rule sets standards for industrial uses in the coastal area, including (but not limited to) electric power production, food and food by-product processing, paper production, agri-chemical production, chemical processes, storage facilities, metallurgical processes, mining and excavation processes, and processes using mineral products.*

The TSP is consistent with this policy because it provides CSRM features that reduce risk to areas within this policy from impacts associated with sea level rise, storm surges, and coastal flooding.

7:7E-15.8      Mining use rule

*This rule sets standards for mining in the coastal area.*

The TSP does not involve mining, and therefore this policy is not applicable.

7:7E-15.9      Port use rule

*This rule sets standards for port uses and port-related development. The standards are designed to ensure that port facilities retain their economic vitality.*

The TSP is consistent with this policy, because it provides CSRM features that reduce risk to ports and port-related development from impacts associated with sea level rise, storm surges, and coastal flooding.

7:7E-15.10      Commercial facility use rule

*This rule sets standards for commercial facilities such as hotels, casinos, retail trade, and convention centers in the coastal zone.*

The TSP does not involve construction of these types of commercial facilities, and therefore this policy is not applicable.

7:7E-15.11      Coastal engineering

*This rule sets standards for the protection of shoreline and the maintenance of dunes and provides rules for beach nourishment.*

The construction, maintenance, or reconstruction of all TSP measures will comply with all appropriate coastal engineering standards. Dune protection and creation is encouraged by this policy and is an important part of the TSP. As project measures are selected in the Tier 2 NEPA process and the proposed project progresses into later stages of design, these standards will be incorporated. Therefore, the TSP is consistent with this policy.

7:7E-15.12      Dredged material placement on land

*This rule sets standards for the placement of dredged materials, defined as the disposal or beneficial use of sediments removed during dredging operations. Beneficial uses of dredged material include, but are not limited to, fill, topsoil, bricks and lightweight aggregate. This rule applies to the placement of dredged material landward of the spring high water line; disposal in water areas is covered in N.J.A.C. 7:7E- 4.8.*

The TSP dredging operations and disposal of dredged materials would comply with project-specific state and Federal permit regulations and special conditions. As previously stated, dredged material will be tested to determine appropriate disposal methods and classified as either HARS-suitable or HARS-unsuitable. Dredged materials will be beneficially used to the extent possible, or treated if found to be unsuitable materials. Therefore, the TSP is consistent with this policy.

7:7E-15.13      National defense facility use rule

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

The TSP does not involve National Defense Facilities; thus, this policy is not applicable.

7:7E-15.14      High Rise Structures

*This rule sets standards for high-rise structures in the coastal zone. High-rise structures are structures which are more than six stories or more than 60 feet in height as measured from existing preconstruction ground level.*

The TSP does not involve high-rise structures; thus, this policy is not applicable.



## 6.8 Subchapter 16 - Resource Rules

### 7:7E-16.2 Marine Fish and Fisheries

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

The TSP is not projected to have an adverse impact on the reproductive and migratory patterns of estuarine and marine species of finfish and shellfish. This is due in part to BMPs that are incorporated in the construction and operation of proposed measures, such seasonal restrictions protective of aquatic natural resources, such as winter flounder and migratory finfish. Therefore, the TSP is consistent with this policy.

### 7:7E-16.3 Water Quality

This rule sets standards for coastal development so as to limit effects on water quality.

Potential impacts of the TSP to the hydrodynamics, salinity, water temperature, dissolved oxygen, and sediment transport in the Study Area will be evaluated in the Tier 2 analysis as project measures are selected. Temporary impacts to water quality can be expected as a result of construction activities located in water and that involve shore-based sediment/land disturbance. Temporary impacts to in-water areas would be managed through implementation of a site-specific SWPPP and construction BMPs. Operational impacts are expected to be temporary and occur only when barriers are closed.

The USACE New York District will abide by Special Conditions, usually included as BMPs, as and where applicable, that are protective of water quality, and that will be included in the CWA and CZMA (Federal Consistency Determination) certification issuance and authorization process. The TSP would therefore be consistent with this policy.

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

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

There will be no use or consumption of surface waters, therefore the TSP is consistent with this policy.

### 7:7E-16.5 Groundwater Use

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

The TSP will not place a demand on groundwater supplies nor will construction activities associated with the TSP impact area groundwater. The TSP is therefore consistent with this policy.

### 7:7E-16.6 Stormwater management

*This rule sets standards for coastal development so as to limit effects of stormwater runoff.*

The TSP is consistent with this policy, as construction impacts of all shore-based measures will be minimized by employing construction BMPs and a site-specific SWPPP (described in the Tier 1 EIS draft Environmental Consequences). The specific project measures and associated construction-related

impacts and BMPs will be modeled and described in the Tier 2 EIS. Avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this phase of the project, therefore the TSP is consistent with this policy.

#### 7:7E-16.7      *Vegetation*

*This rule sets standards for coastal development to protect vegetation.*

Temporary impacts to vegetation will occur during the construction of selected shore-based measures, including stone toe-protection and rock sill structures, deployable flood barriers, elevated promenades, seawalls, buried seawall/dunes, levees and floodwalls. Foundation installation may cause long-term permanent impacts caused by vegetation removal and conversion of pervious surfaces to impervious surfaces. Temporary impacts would be managed through implementation of a site-specific SWPPP and construction BMPs. Impacts to vegetation from the TSP will be avoided and minimized to the maximum extent practicable. Where feasible, native vegetation will be planted on-site and in-kind. As project measures become defined, impacts to vegetation will be described in the Tier 2 EIS assessment, therefore the TSP is consistent with this policy.

#### 7:7E-16.8      *Air quality*

*This rule sets standards for coastal development with requirements that projects meet applicable air quality standards.* The General Conformity Rule (GCR) of the Clean Air Act Amendment (CAA) of 1990 (40 CFR 193) went into effect as of January 31, 1994. The GCR requires Federal Actions, including providing funds or issuing permits, not interfere with states' efforts to attain or maintain ambient air quality standards in accordance with EPA-approved State Implementation Plans (SIPs). All Federal Actions must comply with the GCR unless otherwise exempt. GCR only applies to actions that emit one or more criteria pollutants in areas that do not meet CAA standards for one or more pollutant (nonattainment area) or have just recently come within the standard (maintenance area).

The TSP will produce temporary localized emission increases from the diesel-powered construction equipment working at the various project locations. The localized emission increases from the diesel-powered equipment will last only during the project's construction period in each location and then end when the project phase is complete at each location, thus any potential impacts will be temporary in nature and geographically dispersed over the project duration. The Project's General Conformity-related annual emissions are below the de minimis threshold levels for the relevant pollutants. Therefore, by rule (40 CFR §93.153 (b)), the Project is considered de minimis and will have only a temporary impact around the construction activities with no long-term impacts and no negative effects on the applicable State Implementation Plan (SIP). The NYNJHAT project includes the protection of ecosystems associated with shorelines, inlets, barrier islands, back bays, and mainland upland areas, and restoration of vegetation lost through erosion, all of which will contribute to carbon sequestering and dune structural resiliency during storms. The protection of these ecosystems provided by the TSP will enable the greater coastal ecosystem to continue to sequester carbon through sustainable vegetation growth resulting from the project and will minimize future storm damage further inland and associated reconstruction emissions. As a result, CO<sub>2</sub> generation during future emergency response clean-up and restoration of

the coastline will be limited or avoided. It is anticipated that the project will have a net benefit long-term local impact related to climate change. Therefore, the TSP will be compliant with the Clean Air Act and this policy (see Appendix A6).

7:7E-16.9      *Public Access to the Waterfront*

*This rule 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.*

The TSP is consistent with this policy because it provides CSRM features that reduced risk to the waterfront and does not obstruct public access to such areas that otherwise are subject to impacts associated with sea level rise, storm surges, and coastal flooding.

Temporary impacts to recreation are anticipated from disruption of access due to the presence of equipment and active construction. BMPs would be implemented to limit construction hours to standard allowable hours, during daylight and to potentially avoid recreation high use times of year and day. Impacts to recreational resources are anticipated to be limited to the duration of construction; these areas would be made available to the public once construction is complete. Beneficial long-term impacts on recreation would occur through stabilization of beach areas currently used for recreation. Long-term benefits to recreational resources include increase in the size of recreational beach areas, reducing risk to of coastal storm surges coastal areas for public access.

7:7E-16.10      *Scenic Resources and Design*

*This rule sets standards for new coastal development to be visually compatible with its surroundings.*

Modeling visual impacts from places such as the Statue of Liberty and other prominent locations would be required to assess potential impacts to visual resources for the Tier 2 EIS. Therefore, the TSP is consistent with this policy.

7:7E-16.11 *Buffers and Compatibility of Uses*

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

This Policy is not applicable to the TSP because it will not change the existing land use nor will it affect the buffers.

7:7E-16.12      *Traffic*

*This rule sets standards for coastal development so as not to disturb traffic systems.*

The TSP will not affect existing traffic systems, and therefore this policy is not applicable.

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

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

The TSP does not involve subsurface sewage disposal, therefore this policy is not applicable.

7:7E-16.14      Solid and hazardous waste

*This rule requires that coastal development conforms to all applicable State and Federal regulations, standards and guidelines for the handling and disposal of solid and hazardous wastes. Solid waste includes any garbage, refuse, sludge or other waste material that is "disposed of" by being discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that it may enter the environment. Solid waste becomes a hazardous waste when it exhibits any of the characteristics which are specified in 40 CFR 261 (e.g., ignitability, corrosivity, reactivity, and toxicity). Solid waste does not include certain agricultural wastes, recyclable materials, or materials approved for beneficial use or categorically approved for beneficial use.*

The TSP does not involve solid and hazardous waste. Dredged material is exempt from the rules for land-based solid and/or hazardous waste products. Instead, all dredged material will be tested under dredge material placement criteria to be used beneficially and in compliance with all Federal, state and local regulations. The TSP is therefore consistent with this policy.

## **6.9      Subchapter 17 - Mitigation**

*This subchapter details the requirements of mitigation.*

The TSP, including potential construction of any mitigation areas, will meet all applicable agency guidelines or permit requirements. Mitigation will be included in the Tier 2 EIS. Therefore, the TSP is consistent with this subchapter.

## **6.10   Findings of the Coastal Zone Consistency Evaluation**

This coastal zone consistency evaluation considered the implementation of the proposed NYNJHAT study TSP and evaluates the project's consistency with the applicable Coastal Zone Management Rules in NJ. Based on this evaluation, the TSP is consistent with all applicable policies.

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