



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

**Integrated Hurricane Sandy
General Reevaluation Report
and
Environmental Impact Statement**

Atlantic Coast of New York

**East Rockaway Inlet to
Rockaway Inlet and Jamaica Bay**

**Appendix D
Environmental Compliance**

**Attachment D4
Section 404(b)(1) Guidelines Evaluation**

December 2018

East Rockaway Inlet to Rockaway Inlet and Jamaica Bay Reformulation Study

General Reevaluation Report and Environmental Impact Statement

Section 404(b)(1) Guidelines Evaluation

1 INTRODUCTION

This attachment to Appendix D (Environmental Compliance) of the Hurricane Sandy General Reevaluation Report/Environmental Impact Statement (GRR/EIS) presents a Section 404(b)(1) Guideline evaluation for the comprehensive evaluation of improvements to the Rockaway Atlantic Ocean Shoreline, and Jamaica Bay back bay shoreline elements of the project area. The evaluation is based on the regulations found at 40 CFR 230, Section 404(b)(1): Guidelines for Specification of Disposal Sites for Dredged or Fill Material. The regulations implement Sections 404(b) and 501(a) of the Clean Water Act, which govern the disposal of dredged and fill material inside the territorial sea baseline (§230.2(b)).

As stated in Section 230.10(a)(4):

For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines.

The integrated Draft Hurricane Sandy General Reevaluation Report/Environmental Impact Statement (GRR/EIS), to which this evaluation is an appendix, provides the documentation necessary to attest that the project is fully in compliance with the Section 404(b)(1) guidelines. The GRR/EIS provides a full project description and location, description of existing conditions, full alternatives analysis, and description of potential impacts as a result of the project and the project's construction.

The analysis provided within the GRR/EIS documents that the implementation of the Recommended Plan will not cause or contribute to significant degradation of the waters of the United States, as is demonstrated in the following sections.

The following Section 404(b)(1) evaluation is presented in a format consistent with typical evaluations in the New York area and addresses all required elements of the evaluation.

2 PROJECT DESCRIPTION

- a. Location: The study area consists of the Atlantic Coast of New York City between East Rockaway Inlet and Rockaway Inlet, and the water and lands within and surrounding Jamaica Bay, New York. The Recommended Plan (RP) includes physical Coastal Storm Risk Management (CSRM) elements along the



oceanfront along Rockaway, and along the coastline of the Rockaway Inlet and Jamaica Bay. The study area is vulnerably located within the Federal Emergency Management Agency (FEMA) regulated 100-year floodplain. The shorefront area, which is a peninsula approximately 10 miles in length, generally referred to as Rockaway, separates the Atlantic Ocean from Jamaica Bay immediately to the north. The greater portion of Jamaica Bay lies in the Boroughs of Brooklyn and Queens, New York City, and a section at the eastern end, known as Head-of-Bay, lies in Nassau County. More than 850,000 residents, 48,000 residential and commercial structures, and scores of critical infrastructure features such as hospitals, nursing homes, wastewater treatment facilities, subway, railroad, and schools are within the study area.

- b. General Description: During Hurricane Sandy in October 2012, tidal waters and waves directly impacted the Atlantic Ocean shoreline. Tidal waters amassed in Jamaica Bay by entering through Rockaway Inlet and by overtopping and flowing across the Rockaway Peninsula. Effective coastal storm risk management for communities within the study area requires reductions in risk from two sources of coastal storm damages: inundation, wave attack with overtopping along the Atlantic Ocean shorefront of the Rockaway peninsula and flood waters amassing within Jamaica Bay via the Rockaway Inlet.

The RP includes Atlantic Ocean shorefront protection (composite seawall, beach renourishment, groins) along the Atlantic Coast of the Rockaway peninsula and both structural and non-structural high frequency flooding risk reduction features (HFFRRFs) and Natural and Nature Based Features (NNBFs) along the Jamaica Bay coastline. No significant adverse impacts from construction or operation of the RP on environmental resources in the study area have been identified in the EIS. Short-term, direct, minor adverse impacts to aesthetics, noise, water quality, aquatic habitats and species, marine and terrestrial species, and recreation resources would occur during construction of the RP. These impacts would end upon completion of construction of the RP.

- c. Authority and Purpose: The RP identification and analyses will be conducted by USACE under Section 1135 of the Water Resources Development Act of 1986, as amended. Under Section 1135, the USACE is authorized to review the need for modifications of existing projects for the purpose of providing measures to improve environmental quality and is authorized to address degradation of the environment caused by a past USACE project.

For many years prior to Hurricane Sandy, study area CSRMs efforts have emphasized Atlantic shoreline features with the State of New York as the local sponsor. In October 2012, coastal areas in vicinity to New York City were devastated by the impacts of Hurricane Sandy. Awareness of the need for an integrated approach to CSRMs opportunities in Jamaica Bay and surrounding communities has increased since Hurricane Sandy. As a result of the devastation associated with Hurricane Sandy, the USACE has been tasked to address “coastal resiliency” and “long-term sustainability” in addition to the traditional USACE



planning report categories of “economics, risk, and environmental compliance” (USACE 2013).

Accordingly, USACE has prepared a Hurricane Sandy General Reevaluation Report/Environmental Impact Statement (GRR/EIS) examining coastal storm management (CSRМ) problems and opportunities for the East Rockaway Inlet to Rockaway Inlet and Jamaica Bay study area. The goal of the Draft GRR/EIS is to identify solutions that will reduce Atlantic Ocean shoreline and Jamaica Bay vulnerability to storm damage over time, in a way that is sustainable over the long-term, both for the natural coastal ecosystem and for communities.

Consistent with current USACE planning guidance, the study team identified and screened alternatives to address CSRМ, and is presenting the RP. The RP identifies the overall project features, with the acknowledgement that the specific dimensions of the plan have not been finalized. These final design components will be undertaken after review of the GRR/EIS. The Revised Draft GRR/EIS will undergo public review, policy review, Agency Technical Review (ATR), and Independent External Peer Review (IEPR). The USACE study team will respond to review comments, then present a recommended plan and develop a Final GRR/EIS.

- d. General Description of Placement Material: Sand that is compatible to the existing Rockaway Atlantic Ocean shoreline will be pumped in from a proposed offshore borrow area, and rock sill is proposed for some elements of the Jamaica Bay component of the overall project.
- e. Proposed Discharge Site: Under the RP, the dredged sand would be placed along the Rockaway Atlantic Ocean shoreline, and rock sill is proposed for some elements of the Jamaica Bay component of the overall project.
- f. Disposal Method: Use of hydraulic dredging equipment for the initial construction and renourishment efforts, as well as for Jamaica Bay components of the overall project, is proposed.

3 FACTUAL DETERMINATIONS

- a. Physical Substrate Determinations (Atlantic Coast/Jamaica Bay)
 - (1) The GRR Coastal Storm Risk Management plan for the area from East Rockaway Inlet to Rockaway Inlet and the lands within and surrounding Jamaica Bay New York consists of the following components, which are generally described for two Planning Reaches: 1) A reinforced dune and Berm Construction, in conjunction with groins in select locations along the Atlantic Ocean Shoreline; 2) a line of protection along Jamaica Bay and Rockaway Inlet comprised of CSRМ features in locations surrounding Jamaica Bay (See GRR/EIS Section 6.2 for extensive plan details). If additional CSRМ features are further developed, additional NEPA documentation and resource agency coordination would be provided, as necessary. This RP description includes the maximum footprint for the plan, however the footprint may be revised based on public and agency comments as well as new



information. Both elements (i.e., Atlantic Ocean Shoreline, Jamaica Bay/Back Bay shoreline) of the entire project are subject to evaluation under the 404(b)(1) jurisdiction.

The plan (summary provided here) along the Atlantic Ocean Shorefront consists of:

- A composite seawall with a structure crest elevation of +17 feet (NAVD88) – the dune elevation is +18 feet (NAVD88), and the design berm width is 60 feet;
- A beach berm elevation of +8 ft (NAVD88) and a depth of closure of -25 ft (NAVD88);
- A total beach fill quantity of 1.6 million cy for the initial placement, including tolerance, overfill and advanced nourishment with a 4-year renourishment cycle of 1,021,000 cy, resulting in a minimum berm width of 60 feet;
- Extension of 5 existing groins; and
Construction of 13 new groins.
- The east beachfill taper is approximately 3,000 ft in shorefront length from Beach 19th Street east to Beach 9th Street. The taper comprises of approximately 1,000 ft of dune and beach taper including reinforced dune feature and approximately 2,000 ft of dune and beach fill without reinforced dune feature. In addition to the tapering of berm width, the dune elevation also tapers from an elevation of +18 ft (NAVD88) at 19th Street down to approximately +12 ft (NAVD88) at Beach 9th Street which will be tied into the existing grade. The west beachfill taper is approximately 5,000 ft in shorefront length from Beach 149th Street west to Beach 169th street fronting Riis Park. The beachfill taper will be beach fill only with a berm width tapered from the design width at 149th Street to the existing width and height at 169th Street. In addition to the beachfill taper, a tapered groin system comprised of three (3) rock groins is included for this section.

The plan along the Jamaica Bay/Back Bay consists of:

See RDGRR/EIS Section 6.2 for plan details, and summary.

- (2) Sediment Type: Sediments similar to those present in the placement area will be utilized. No impacts are anticipated. (See “Borrow Source Investigation Appendix B,” April 7, 2016; and “Draft Reformulation Study,” March 26, 2015.)/ There will be no significant impact to sediment from implementation of the Jamaica Bay Recommended Plan features.
- (3) Dredged Material Movement: Minor short-term movement and existing shore processes will continue/NA
- (4) Physical Effects on Benthos: Minor short-term disruption at the Atlantic Ocean Shoreline, and habitat exchange due to rock sill placement at some segments of Jamaica Bay Shoreline. Creation of rock sill features provides protection for the subtidal and intertidal habitats, as well as provide a hard bottom habitat for increased



ecological production. These features provide additional opportunities for oyster and ribbed mussel habitat creation.

- (5) Other Effects: None identified
 - (6) Action to Minimize Impacts: See Section 6.
- b. Water Circulation, Fluctuations, and Salinity Determinations
- (1) Water
 - a. Salinity: Proposed project is not expected to affect salinity because beach fill does not govern the overall water mass movements (tidal flow and river discharge) that control salinity.
 - b. Water Chemistry: No major impacts are expected.
 - c. Clarity: Temporary increase in turbidity will occur from sediment resuspension during placement of the material/ No significant effect from implementation of Jamaica Bay features.
 - d. Color: Minor temporary changes possible but no major short- or long-term impacts are expected/NA
 - e. Odor: No measurable impacts are expected/NA.
 - f. Taste: Not applicable/NA
 - g. Dissolved Gas Levels: Possible short-term variation may occur due to turbulence created by placement of the material on the beach/NA.
 - h. Nutrients: Temporary and localized nutrient increases may occur due to sediment resuspension during beach and rock fill activities. No long-term increase in nutrients and eutrophication will result from the Recommended Plan /NA.
 - i. Eutrophication: None identified/NA
 - j. Other: None identified
 - (2) Current Patterns and Circulation: No significant impacts identified
 - (3) Normal Water Level Fluctuations: No significant impacts identified/NA
 - (4) Salinity Gradients: No significant impacts expected/NA
 - (5) Actions to Minimize Impacts: Implement recommendations from National Marine Fisheries Service, USFWS and state and local regulatory agencies to maintain potential impacts at minor, less-than-significant adverse levels.
- c. Suspended Particulate/Turbidity Determination
- (1) Change at Disposal Site: Short-term, localized increases in suspended sediment/turbidity as a result of placement of fill material.
 - (2) Effects on Chemical and Physical Properties of the Water Column: Resuspension impacts should be minimal since particles will settle out fairly rapidly and no toxic



metals or organic compounds are anticipated to be encountered in the borrow area source material/NA.

- (3) Effects on Biota: Short-term exposure due to localized sediment resuspension during placement of material. No long-term significant effects are projected/NA.
 - (4) Action to Minimize Impacts: Placement of material will be completed as early as possible to allow for optimum recruitment of benthic organisms within the placement area. Use of BMPs, per USFWS, NMFS and state and local regulatory agency recommendations will be utilized to minimize potential significant impacts/NA.
- d. Contaminant Determination: No impacts identified.
 - e. Aquatic Ecosystems and Organisms Determination: Possible effects to those species that are in the immediate area of placement. No significant impacts are expected/NA.
 - f. Proposed Disposal Site Determination: Not applicable.
 - g. Determination of Cumulative Effects on the Aquatic Ecosystem: See EIS Section 7.25.
 - h. Determination of Secondary Effects on the Aquatic Ecosystem: None identified.

4 FINDINGS OF COMPLIANCE OR NONCOMPLIANCE

- a. There are no practicable alternatives for the RP under the jurisdiction of Section 404(b)(1) Guidelines.
- b. The RP does not appear to violate applicable state water quality standards or effluent standards.
- c. The RP will not have significant adverse impacts on endangered species or their critical habitats. Formal coordination with the USFWS and NMFS under Section 7 of the Endangered Species Act of 1973 will be completed to ensure the safety of any transient species that may be present during construction.
- d. The RP will not result in significant adverse impacts on human health or welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, shellfish, wildlife and special aquatic sites.
- e. All appropriate steps to minimize adverse environmental impacts will be implemented during construction and operation of the RP.
- f. No significant adaptations of the guidelines were made relative to this evaluation.

5 CONCLUSIONS

Based on the above, the RP is determined to be in compliance with the Section 404(b)(1) Guidelines, subject to appropriate and reasonable conditions, to be determined on a case-by-case basis, to protect the public interest.

