



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

NEW YORK AND NEW JERSEY HARBOR DEEPENING CHANNEL IMPROVEMENTS

NAVIGATION STUDY

DRAFT INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A2: Clean Water Act Section 404(b)(1) Evaluation

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1. Introduction

This document presents a Section 404(b)(1) guidelines evaluation for the Harbor Deepening Channel Improvement Navigation Study (HDCI) in New York and New Jersey. The recommended plan, which includes Best Management Practices, will be fully utilized to ensure that turbidity and sedimentation are limited to the area immediately adjacent to the project site and minimized to the greatest extent possible. This evaluation is based on the regulations presented in 40 CFR 230, Section 404(b)(1): Guidelines for Specification of Disposal Sites for Dredged or Fill Material. The regulations implement Sections 404(b) and 401(1) of the Clean Water Act, which govern disposal of dredged and fill material inside the territorial seas baseline [§230.2(b)].

As stated in Section 230.10(a)(4): For actions subject to NEPA, where the U.S. Army Corps of Engineers (USACE) is the permitting agency, the analysis of alternatives required for NEPA documents, including supplemental NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. The EA, to which this evaluation is appended, provides the documentation necessary to attest that the project is fully in compliance with the Section 404(b)(1) guidelines. The EA provides a full project description and location, description of existing conditions, full alternatives analysis, and description of potential impacts as a result of implementation of the project. The analysis provided within the EA along with the review that will be undertaken during the application process for the New York and New Jersey State Water Quality Certificates under Section 401(1) of the Clean Water Act will document that the implementation of this navigation improvement project will not cause or contribute to significant degradation of the waters of the United States, as is demonstrated in the following sections.

2. Project Description

2.1. Location

The New York and New Jersey Harbor is located at the apex of the New York Bight. It serves as the port for the greater metropolitan New York area, providing maritime access to shipping terminals via a network of dredged and maintained channels and anchorages. The Harbor exists within the larger confines of the Hudson-Raritan estuary, a diverse and significant habitat complex strongly influenced by tidal action and the mixing of seawater and freshwater drainage (USFWS 1997). The Harbor portion of the estuary covers approximately 298 square miles of surface water (USACE 1999a) and includes for this assessment the bi-state waters of Newark Bay, Arthur Kill, Kill Van Kull, Lower New York Bay, and Upper New York Bay.

The Harbor is characterized by a network of interconnected navigation channels of a range of authorized depths down to 50 feet (ft) and surrounding shoals and shallow flats. The Lower Bay portion of the Harbor complex is comprised of extensive shallow flats with scattered areas of deeper waters, including borrow areas and pits. The relatively shallow bottoms exclusive of the navigation channels cover 77 percent of the total area (38 percent is <15 ft and 39 percent is 15 –

25 ft deep), whereas the Upper Bay is comprised predominantly of deep water (67 percent is >25 ft deep) and Newark Bay is dominated by shallow flats (67 percent is <15 ft deep). The Kill Van Kull and Arthur Kill are relatively narrow waterways dominated by major shipping channels. In the Upper Bay and Newark Bay, navigation channels and berthing areas comprise approximately 35 percent and 22 percent respectively of the total available substrate. The shoals and shallow flats of the Lower Bay represent approximately 152 million square meters (m²) (91 percent of the total area in the Lower Bay), nearly 29 m² in the Upper Bay (65 percent), and nearly 12 m² in Newark Bay (78 percent). Thus the Lower Bay provides a large majority of the total shoal and shallow water acreage in the Harbor. Additionally, the shallow waters of the Lower Bay are more expansive and unfragmented in comparison to other Harbor areas (USACE 1999a).

2.2. General Description of Selected Plan

The Tentatively Selected Plan is identified as deepening the selected pathways from Ambrose Channel, Anchorage Channel and Port Jersey Channel, the Kill Van Kull, Newark Bay Channel, South Elizabeth Channel, and Elizabeth Channel by up to 5 feet (up to -55 feet MLLW). Chapter 5 of the integrated Main Report & EA contains more information, including tables and figures.

2.3. Authority and Purpose.

In March 2018, an Initial Appraisal Report, per compliance with Section 216 of WRDA 1970, was completed to determine if there is potential federal interest to undertake modifications to the existing 50-foot federal navigation project. The Initial Appraisal Report states that the accelerating expansion of the volume of trade that has taken place since the existing 50-foot federal navigation project was authorized has led to the existing project's dimensions, based on the design vessel the Regina Maersk as recommended in the 1999 Study, being superseded in use in the Port of New York and New Jersey much sooner than anticipated in the 1999 Study. This fact has a material effect on the economics and engineering design of the 50-foot federal navigation project. The Initial Appraisal Report found "a comparison of these facts with the requirements §216 indicates that all of the requirements of §216 have been meet." The Initial Appraisal Report made the recommendation to "investigate and determine if there is a Federal interest in continuing the project with the preparation of cost-shared feasibility report for analyzing alternatives to address the identified problems though possible modifications of the project."

As an outcome of the Initial Appraisal Report, the resulting study is called the New York and New Jersey Harbor Deepening Channel Improvements, Navigation Feasibility Study (NYNJHDCI Study). Water Resources Development Act 1970 Section 216 limits the analysis of the NYNJHDCI Study to the constructed 50-foot federal navigation project.

The purpose of this document is to re-evaluate the potential effects to resources regulated under the Clean Water Act (CWA) from the newly authorized Harbor Deepening Channel Improvements Study (HDCI).

3. General Construction and Material Descriptions

Components of the project design include deepening and widening the existing -50' MLLW Federal channels to up to -55 ft MLLW. Initial volumes to complete the deepening and widening is a total of approximately 30 million cubic yards (MCY) of dredged material.

The construction removal of approximately 30 MCY from the channels would be done using both hydraulic and mechanical dredge equipment.

3.1. General Characteristics of Fill Material

The material dredged from the project is estimated to be sand (Ambrose-Anchorage Channels), silt (KVK, Newark Bay channels and Port Jersey) and rock/till (KVK and Newark Bay channels).

3.2. Quantity of Material

The estimate of the total volume of material being dredged from all sources is approximately 30 MCY.

3.3. Sources of Dredged Material

- Ambrose Channel
- Anchorage Channel
- Port Jersey Channel
- Kill Van Kull Channel
- Newark Bay Channel
- Port Elizabeth Channel
- South Elizabeth Channel

3.4. Description of Proposed Discharge Site

All dredged material will be disposed of, placed or beneficially used in accordance with the projects Dredged Material Management Plan (DMMP), as presented in the EA.

3.5. Time and Duration of Disposal

The dredging and placement of fill material will take place year-round at Ambrose and Anchorage Channels, between June 1 and January 14 at PJ, and between June 1 and February 28 throughout KVK-NB, of every year of construction starting approximately 2025 through 2030.

3.6. Disposal Method

Excavated material will be moved via barge or pipeline to the permitted and/or receiving disposal, placement or beneficial use areas.

3.7. Construction Sequence

The project construction sequence will be determined during the Pre-engineering and Design (PED) phase of the project, post-authorization.

4. Factual Determination

Table 1: Review of Compliance – Section 230.10(a)-(d)

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

Table 2: Technical Evaluation Factors (Subparts C-F)

| | N/A | NOT SIGNIFICANT | SIGNIFICANT |
|---|-----|-----------------|-------------|
| a. Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C) | | | |
| 1) Substrate | | X | |
| 2) Suspended particulates/turbidity | | X | |
| 3) Water column impacts | | X | |
| 4) Current patterns and water circulation | | X | |
| 5) Normal water circulations | | X | |
| 6) Salinity gradients | | X | |
| b. Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart | | | |

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

Table 3: Evaluation and Testing - Subpart G

| A. THE FOLLOWING INFORMATION HAS BEEN CONSIDERED IN EVALUATING THE BIOLOGICAL AVAILABILITY OF POSSIBLE CONTAMINANTS IN DREDGED OR FILL MATERIAL. (CHECK ONLY THOSE APPROPRIATE). | | |
|---|--|-----|
| 1) Physical characteristics | | X |
| 2) Hydrography in relation to known or anticipated sources of contaminants | | X |
| 3) Results from previous testing of the material or similar material in the vicinity of the project. | | X |
| 4) Known, significant sources of persistent pesticides from land runoff or percolation | | N/A |

| | | |
|---|------------|-----------|
| 5) Spill records for petroleum products or designated hazardous substances (Section 311 of CWA) | X | |
| 6) Public records of significant introduction of contaminants from industries, municipalities or other sources | X | |
| 7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities | X | |
| 8) Other sources (specify) | N/A | |
| List appropriate references – See Environmental Assessment | | |
| | YES | NO |
| b. An evaluation of the appropriate information factors in 3a above indicates that there is reason to believe the proposed dredge material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and disposal sites and not likely to require constraints. | X | |

Table 4: Disposal Site Delineation - Section 230.11(f)

| | | |
|---|------------|-----------|
| A. THE FOLLOWING INFORMATION HAS BEEN CONSIDERED IN EVALUATING THE BIOLOGICAL AVAILABILITY OF POSSIBLE CONTAMINANTS IN DREDGED OR FILL MATERIAL. (CHECK ONLY THOSE APPROPRIATE). | | |
| 1) Depth of water at disposal site | | Yes |
| 2) Current velocity, direction, variability at disposal site | | Yes |
| 3) Degree of turbulence | | Yes |
| 4) Water column stratification | | Yes |
| 5) Discharge of vessel speed and direction | | Yes |
| 6) Rate of discharge | | Yes |
| 7) Dredged material characteristics (constituents, amount, and type of material, settling velocities) | | Yes |
| 8) Number of discharges per unit of time | | Yes |
| 9) Other factors affecting rates and patterns of mixing (specify) | | Yes |
| List appropriate references – See Environmental Assessment | | |
| | YES | NO |
| b. An evaluation of the appropriate information factors in 4a above | X | |

| | | |
|--|--|--|
| indicated that the disposal sites and/or size of mixing zones are acceptable. | | |
|--|--|--|

Table 5: Actions to Minimize Adverse Effects (Subpart H)

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

Table 6: Factual Determination - Section 230.11

| A REVIEW OF APPROPRIATE INFORMATION, AS IDENTIFIED IN ITEMS 2-5 ABOVE, INDICATES THERE IS MINIMAL POTENTIAL FOR SHORT OR LONG TERM ENVIRONMENTAL EFFECTS OF THE PROPOSED DISCHARGE AS RELATED TO: | | |
|--|------------|-----------|
| | YES | NO |
| a. Physical substrate at the disposal site (review Section 2a, 3, 4, and 5 above) | X | |
| b. Water circulation, fluctuation and salinity (review Sections 2a, 3, 4, and 5) | X | |
| c. Suspended particulates/turbidity (review Sections 2a, 3, 4, and 5) | X | |
| d. Contaminant availability (review Sections 2a, 3, and 4) | X | |
| e. Aquatic ecosystem structure, function, and organisms (review Sections 2b, 2c, 3, and 5) | X | |
| f. Proposed disposal site (review Section 2, 4, and 5) | X | |
| g. Cumulative effects on the aquatic ecosystem | X | |
| h. Secondary effects on the aquatic ecosystem | X | |

Table 7: Findings of Compliance or Non-Compliance

| | YES | NO |
|---|------------|-----------|
| The proposed disposal site for discharge of dredged or fill material complies with Section 404(b)(1) guidelines | X | |

In summary, the implementation of the recommended plan to improve (i.e. deepen and widen the navigation channels with placement and/or beneficial use of the dredged material as coordinated with or directed by the affected states:

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

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

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

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