

**NEW HAVEN HARBOR
CONNECTICUT
NAVIGATION IMPROVEMENT PROJECT

INTEGRATED FEASIBILITY REPORT AND
ENVIRONMENTAL IMPACT STATEMENT**

**CLEAN WATER ACT
404(b)(1) EVALUATION**

CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

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

CONCORD, MA

PROJECT: Improvement Dredging of New Haven Harbor, New Haven, Connecticut

PROJECT MANAGER: Ms. Barbara Blumeris Phone: (978) 318-8737

FORM COMPLETED BY: Mr. Todd Randall Phone: (978) 318-8518

PROJECT DESCRIPTION:

The existing New Haven Harbor Federal Navigation Project (FNP) is shown in Figure 1. Navigation features of the existing Federal Navigation Project include:

- A main ship channel, -35 feet MLLW, extending about 5 miles from deep water in Long Island Sound to the head of the harbor at the mouth of the Quinnipiac River, varying in width from 500 feet (outer-harbor) to 400 feet (inner-harbor), and widened to 800 feet along the upper harbor terminals to provide a maneuvering area;
- A turning basin in the upper harbor west of the channel also at -35 feet MLLW;
- Two anchorages west of the main channel, at -15 and -16 feet MLLW;
- The Quinnipiac River Channel, at -18 feet MLLW (lower channel) and -16 feet MLLW (upper channel), and generally 200 feet wide;
- The Mill River Channel, at -12 feet MLLW, 200 feet wide, including two branches (east branch at 100 ft. wide, and west branch at 125 feet wide);
- The West River channel authorized at -12-feet MLLW, 100 to 150 feet wide, with a -6 foot MLLW anchorage;
- A pile and stone T-dike at Stony Point west of the main channel, 4,200 feet long; and
- Three offshore stone breakwaters, totaling 12,100 feet in length providing a refuge in the outer harbor.

Due to inefficiencies in large vessels transiting the harbor, USACE is considering navigation improvement to the New Haven Harbor FNP. The tentatively selected plan (TSP) for the New Haven Harbor Navigation Improvement project is the -40 feet MLLW Plan. The TSP consists of the following General Navigation Feature Improvements:

TSP - General Navigation Feature Improvements

- Deepen the channel, maneuvering area, and turning basin from - 35 to -40 feet, MLLW
- Widen the turning basin to the north 200 feet
- Widen the inner channel from 400 to 500 feet and the entrance channel from 500 to 600 feet.
- Widen the channel bend at the East Breakwater from 560 to 800 feet

The improvement features are shown in Figure 2. The dredged material quantity estimate

for the improvement dredging is shown in Table 1.

Table 1. TSP Dredged Material Quantity Estimates.

TSP (-40 feet MLLW Plan)	Dredging Quantities (CY)		Total
	Cut	2-ft. Over depth	
Entrance Channel	278,300	240,000	518,300
Bend (Ordinary Material)	475,300	161,300	636,600
Bend (Rock) (Required Cut to El 42)	24,900	18,600	43,500
Interior Channel	1,537,400	776,000	2,313,400
Maneuvering Area	377,700	274,600	652,300
Turning Basin	117,900	40,200	158,100
Total Improvement Dredging	2,811,500	1,510,700	4,322,200

Dredged Material Placement Sites Base Plan

The following sites will be used for the placement of dredged material from the improvement project. These sites are considered the Federal base plan and also represent beneficial use of the dredged material. The sites are:

- Morris Cove and West River Borrow Pits
- Create Oyster Habitat south of east breakwater
- Rock placement at west Breakwater (rock reef)
- Cover historic disposal mounds at CLDS

Salt Marsh Creation Additional Opportunity for Beneficial Use Site

In addition to the above placement sites the opportunity to use some of the dredged material that would go to CLDS to create about 58 acres of salt march was identified. This salt marsh creation site represents an increase in cost over the less expensive option of bringing the material to CLDS. The Non-Federal Sponsors support the salt marsh creation site and are willing to share in the incremental cost above the base plan.

All potential in harbor disposal sites are shown in Figure 2. The CLDS is not shown.

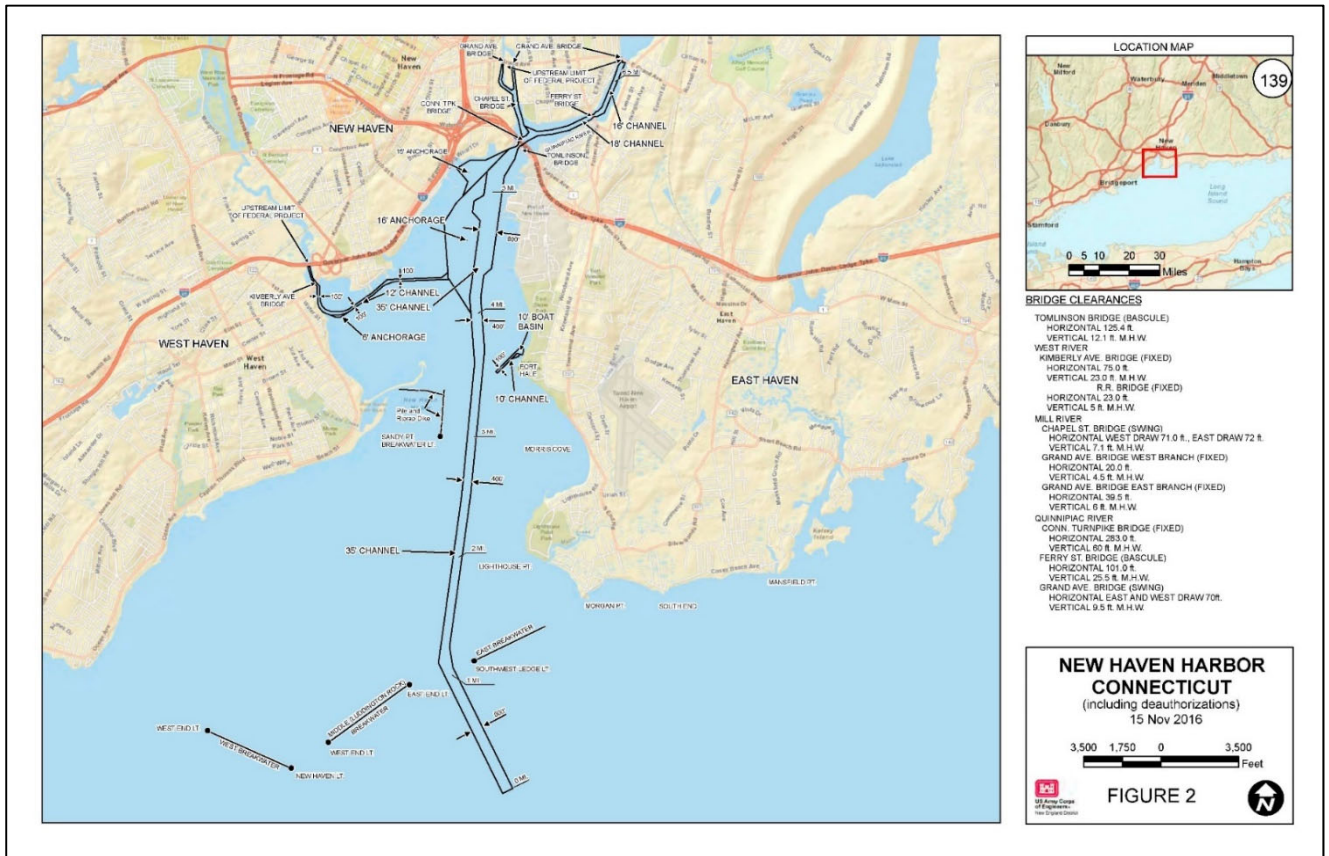
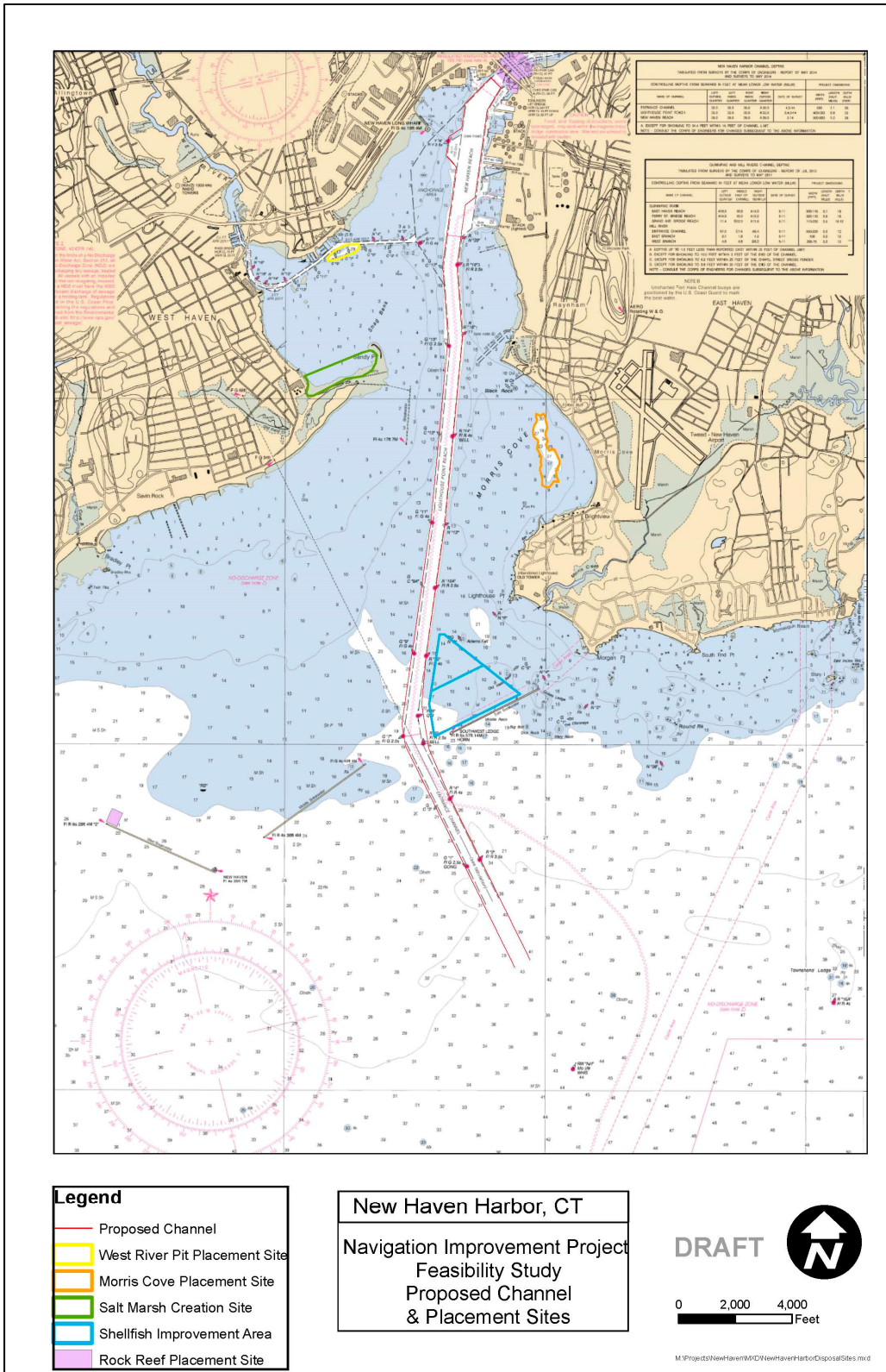


Figure 1. New Haven Harbor Federal Navigation Project

Figure 2. Navigation Improvement Features and Placement Site Locations



**NEW ENGLAND DISTRICT
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EVALUATION OF CLEAN WATER ACT SECTION 404(b)(1) GUIDELINES

PROJECT: New Haven Harbor Federal Navigation Improvement Project

1. Review of Compliance (Section 230.10(a)-(d)).

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|--|---------------------|---------------------|
| 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; | <u> X </u>
YES | <u> </u>
NO |
| 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 critical habitat; and 3) violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies); | <u> X </u>
YES | <u> </u>
NO |
| 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 (if no, see section 2); | <u> X </u>
YES | <u> </u>
NO |
| d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5). | <u> X </u>
YES | <u> </u>
NO |

2. Technical Evaluation Factors (Subparts C-F).

NA	Not Significant	Significant
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a. Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C).

- 1) Substrate
- 2) Suspended particulates/turbidity
- 3) Water
- 4) Current patterns and water circulation
- 5) Normal water fluctuations
- 6) Salinity gradients

	X	
	X	
	X	
	X	
	X	
	X	

b. Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D).

- 1) Threatened/ endangered species
- 2) Fish, crustaceans, mollusks and other aquatic organisms in the food web
- 3) Other wildlife

	X	
	X	
	X	

c. Potential Impacts on Special Aquatic Sites (Subpart E).

- 1) Sanctuaries and Refuges
- 2) Wetlands
- 3) Mud Flats
- 4) Vegetated Shallows
- 5) Coral Reefs
- 6) Riffle and Pool Complexes

	X	
	X	
	X	
X		
X		
X		

d. Potential Effects on Human Use Characteristics (Subpart F).

- 1) Municipal and Private Water Supplies
- 2) Recreational and Commercial Fisheries
- 3) Water-Related Recreation
- 4) Aesthetics
- 5) Parks, national and historic monuments, national seashores, wilderness areas, research sites, and similar preserves

X		
	X	
	X	
	X	
	X	

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	-
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	-
8) Other sources (specify)	-

List Appropriate References:

Environmental Impact Statement for the Improvement Dredging of New Haven Harbor, New Haven, CT, September 2018

b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredge or fill 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. The material meets the testing exclusion criteria.		
	YES	X NO

4. Disposal Site Delineation (Section 230.11(f)).

a. The following factors, as appropriate, have been considered in evaluating the disposal site.

- 1) Depth of water at disposal site
- 2) Current velocity, direction, and variability at disposal site
- 3) Degree of turbulence
- 4) Water column stratification
- 5) Discharge vessel speed and direction
- 6) Rate of discharge
- 7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)
- 8) Number of discharges per unit of time
- 9) Other factors affecting rates and patterns of mixing (specify)

X
X
X
X
X
X
X
-
-

List Appropriate References:

Environmental Impact Statement for the Improvement
Dredging of New Haven Harbor, New Haven, CT,
September 2018

b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

<u>X</u> YES	<u> </u> NO
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5. Actions To Minimize Adverse Effects (Subpart H).

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.

<u>X</u> YES	<u> </u> NO
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6. Factual Determination (Section 230.11).

A review of appropriate information as identified in items 2 - 5 above indicates that there is minimal potential for short or long term environmental effects of the proposed discharge as related to:

- a. Physical substrate
(review sections 2a, 3, 4, and 5 above).
- b. Water circulation, fluctuation and salinity
(review sections 2a, 3, 4, and 5).
- c. Suspended particulates/turbidity
(review sections 2a, 3, 4, and 5).
- d. Contaminant availability
(review sections 2a, 3, and 4).
- e. Aquatic ecosystem structure, function and organisms
(review sections 2b and c, 3, and 5)
- f. Proposed disposal site
(review sections 2, 4, and 5).
- g. Cumulative effects on the aquatic ecosystem.
- h. Secondary effects on the aquatic ecosystem.


<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO
<u>X</u> YES	<u> </u> NO

7. Findings of Compliance or Noncompliance.

- a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines.

<u>X</u> YES	<u> </u> NO
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14 FEB 2020
Date



William M. Conde
Colonel, Corps of Engineers
District Engineer