



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

DAEN

7 MAY 2010

SUBJECT: New Haven Harbor Navigation Improvement Project, Connecticut

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the review of deep draft navigation works for the New Haven Harbor Navigation Project in the vicinity of New Haven, Connecticut. It is accompanied by the report of the New England District Commander and the North Atlantic Division Commander. These reports are an interim response to a resolution by the United States Senate Committee on the Environment and Public Works dated 31 July 2007, which requested a review of "the report of the Chief of Engineers on New Haven Harbor, Connecticut, published as House Document 517, 79th Congress, 2nd Session, and other pertinent reports, to determine whether modifications to the recommendations contained therein are advisable in the interest of navigation, sediment control, environmental restoration and preservation, and other related purposes at New Haven Harbor, Connecticut." Preconstruction, engineering, and design activities, if funded, will continue under the authority cited above.

2. The reporting officers recommend authorizing a plan to modify the New Haven Harbor Navigation Project in the vicinity of New Haven, Connecticut. The recommended plan is the National Economic Development (NED) Plan. The recommended plan includes deepening the main ship channel, maneuvering area, and turning basin to -40 feet Mean Lower Low Water (MLLW) and extending the entrance channel to allow for the deepening; widening the turning basin to the north 200 feet; widening the inner channel to 500 feet; widening the entrance channel to 600 feet; and widening the channel bend near the East Breakwater to 800 feet. Dredged material from the project will be placed at several open water sites within the harbor and Long Island Sound. These open water disposal sites include Morris Cove borrow pit, an oyster habitat creation site near the East Breakwater, West River Borrow pit, rock placement north of the West Breakwater (rock reef habitat creation), and the Central Long Island Sound Disposal Site (CLDS). The recommended plan also includes a beneficial disposal method beyond the least cost method. A portion of the dredged material that would otherwise have been placed in Long Island Sound at CLDS will be used in the harbor to create a 58 acre salt marsh at Sandy Point in West Haven, Connecticut.

3. The Connecticut Port Authority is the non-federal cost-sharing sponsor for all features.

4. Project costs for the recommended plan are allocated to the commercial navigation purpose and to beneficial use of dredged material for ecosystem restoration and based on October 2019 price levels.

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a. Project First Cost. The estimated project first cost of the recommended plan, which includes beneficial use of dredged material, is \$72,311,000. This project first cost estimate includes the cost of construction of \$67,728,000; lands, easements, right-of-ways and relocations costs (LERRs) of \$171,000; planning, engineering and design costs of \$3,277,000, and construction management costs of \$1,135,000. The estimated project first cost for the General Navigation Features (GNFs) is \$64,868,000 and the estimated project first cost for the beneficial use that is above the least cost placement is \$7,443,000, and which includes an estimated \$250,000 for monitoring and adaptive management.

b. Estimated Federal and Non-Federal Share. The total estimated federal and non-federal shares of the project cost are \$53,489,000 and \$18,822,000, respectively in accordance with the provisions of Sections 101(a) and 103(c)(7) of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. 2211(a) and 2213(c)(7)). The estimated federal and non-federal shares of the costs for GNFs are \$48,651,000 and \$16,217,000, respectively, and the estimated federal and non-federal shares for the beneficial use placement are \$4,838,000 and \$2,605,000, respectively.

c. Additional 10 Percent Payment. In addition to payment by the non-federal sponsor of its share of the total cost of design and construction of the GNFs during design and construction, the non-federal sponsor must pay an additional 10 percent of the cost of the GNFs in cash over a period not to exceed 30 years, with interest, in accordance with Section 101(a)(2) of WRDA 1986, as amended (33 U.S.C. 2211(a)(2)). The value of LERRs and the costs of utility relocations, should they become necessary, will be credited toward this amount in accordance with Section 101(a)(3) of WRDA 1986, as amended (33 U.S.C. 2211(a)(3)).

d. Associated Costs. Total associated costs for the project are estimated at \$35,058,000. The associated costs include approximately \$2,410,000 for dredging berthing areas adjacent to the federal channel that will be the responsibility of the non-federal sponsor. The associated costs also include approximately \$32,648,000 for relocating "Area 6/7" of the Cross Sound Cable located in the federal navigation channel that is the responsibility of the permittee (Cross Sound Cable Company, LLC) as stated in a U.S. Army Corps of Engineers Section 10 permit dated March 10, 2002 and amended September 16, 2004. The amended permit was issued because the permittee did not place the cable in "Area 6/7" at the depth required by the original permit. Per the terms of the amended permit, the permittee is required to meet at their own expense an installation depth of -48 feet mean lower low water "if and when the Corps deepens the New Haven Harbor Federal Navigation Project". There are no required new aids to navigation (U.S. Coast Guard expense) for this project.

e. Authorized Project Cost and Section 902 Calculation. The project first cost for the purpose of calculating the maximum cost of the project pursuant to Section 902 of WRDA 1986, as amended (33 U.S.C. 2280), includes the total cost of construction of the GNFs, the beneficial use of dredged material, the value of LERRs and the costs of utility relocations. Accordingly, as set forth in paragraph 4.a, above, based on October 2019 prices, the total estimated project first

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cost for these purposes is \$72,311,000. Based on October 2019 price levels, a discount rate of 2.75 percent, and a 50-year period of economic analysis, the project average annual benefits and costs are estimated at \$8,124,000 and \$4,162,000, respectively, with resulting net excess benefits of \$3,962,000 and a benefit-to-cost ratio of 2.0 to 1.

In addition, the recommended alternative includes beneficial use of dredged material to create 58 acres of salt marsh habitat which would provide 458 New England salt marsh habitat units at an average annual cost of \$650 per habitat unit or \$5,100 per acre, and significantly decreases the quantity of dredged material that would need to be placed at the CLDS. The incremental cost of the beneficial disposal method beyond the least cost method, \$7,443,000, is reasonable in relation to the environmental benefits achieved.

f. Operation and Maintenance Costs. The additional annual cost of navigation operation and maintenance for this recommended plan is estimated to be \$394,000 in accordance with Section 101(b)(1) of WRDA 1986, as amended (33 U.S.C. 2211(b)(1)). Annual operation and maintenance costs for the non-structural and non-mechanical components of the beneficial use salt marsh site are estimated to be \$15,000 and are a 100% non-Federal responsibility.

5. The goals and objectives included in the U.S. Army Corps of Engineers Campaign Plan have been fully integrated into the New Haven Harbor Navigation Improvements study process. The recommended plan was developed in coordination and consultation with various federal, state, and local agencies using a systematic and regional approach to formulating solutions and evaluating the benefits and impacts that would result.

6. In accordance with the U.S. Army Corps of Engineers policy on the review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic, and rigorous review process to ensure technical quality. This includes District Quality Control, Agency Technical Review, an Independent External Peer Review (IEPR) (Type 1), and a U.S. Army Corps of Engineers Headquarters policy and legal review. Battelle Memorial Institute completed the Type 1 IEPR in February 2019. Overall, 12 comments were identified and documented; 3 comments were rated as having medium/high significance, 1 comment was rated as having medium significance, 4 comments were rated as having medium/low significance, and 4 comments were rated as having low significance. The medium to high comments pertained to future channel shoaling, the design of the salt marsh, and the petroleum shipment forecast. The medium to low comments were related to coastal engineering, geotechnical engineering, economics, and environmental. All comments from the above referenced reviews have been addressed and incorporated into the final documents. Overall the reviews resulted in improvements to the technical quality of the report.

7. Washington level review indicates that the project recommended by the reporting officers is technically sound, environmentally and socially acceptable, cost effective and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources

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Implementation Studies and complies with other administrative and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies have also been fully considered.

8. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the navigation improvements for New Haven Harbor, Connecticut be authorized in accordance with the reporting officers' recommended plan. My recommendation is subject to cost sharing, financing, and other applicable requirements of federal laws and policies, including Sections 101 and 103 of the WRDA 1986, as amended (33 U.S.C. 2211 and 2213). The non-federal sponsor is responsible for providing the non-federal share of project costs and all lands, easements, and rights of way, including those necessary for the borrowing of material and the disposal of dredged or excavated material, and would perform or assure the performance of all relocations, including utility relocations. It is expected that the Cross Sound Cable will be relocated to a greater depth by its owner in accordance with its Section 10 permit dated March 10, 2002 as amended September 16, 2004. This recommendation is subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies. Prior to implementation, the non-federal sponsor shall agree to:

a. Provide, during the periods of design and construction, funds necessary to make its total contribution for commercial navigation equal to 25 percent of the design and construction of the GNFs attributable to dredging to a depth in excess of -20 MLLW but not in excess of -50 MLLW, and provide during the periods of design and construction, funds necessary to make its total contribution for ecosystem restoration equal to 35 percent;

b. Provide all lands, easements, rights-of-way, and relocations (LERR), including those necessary for the borrowing of material and disposal of dredged or excavated material, and perform or assure the performance of all relocations, including utility relocations, all as determined by the Federal Government to be necessary for the GNFs and ecosystem restoration features, and construct all improvements required on lands, easements, and rights of way to enable the disposal of dredged or excavated material as determined by the Federal Government to be necessary for the construction or operation and maintenance of the ecosystem restoration features, all in compliance with applicable provisions of the Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24;

c. Pay with interest, over a period not to exceed 30 years following completion of the period of construction of the GNFs, an additional amount equal to 10 percent of the total cost of construction of GNFs less the amount of credit afforded by the Federal Government for the value of the LERR, including utility relocations, provided by the non-federal sponsor for the GNFs. If the amount of credit afforded by the Federal Government for the value of LERR, including utility relocations, provided by the non-federal sponsor equals or exceeds 10 percent of the total cost of construction of the GNFs, the non-federal sponsor shall not be required to make any contribution under this paragraph, nor shall it be entitled to any refund for the value of LERR,

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including utility relocations, in excess of 10 percent of the total costs of construction of the GNFs;

d. Provide, operate, and maintain, at no cost to the Federal Government, the ecosystem restoration features and the local service facilities in a manner compatible with the project's authorized purposes and in accordance with applicable federal and state laws and regulations and any specific directions prescribed by the Federal Government; including but not limited to providing depths in berths at adjacent terminals at least equal to that of the adjacent federal channel and turning basin;

e. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the project, hinder operation and maintenance of the project, or interfere with the project's proper function;

f. Hold and save the United States free from all damages arising from the construction or operation and maintenance of the project, any betterments, and the local service facilities, except for damages due to the fault or negligence of the United States or its contractors;

g. Perform, or ensure performance of, any investigations for hazardous substances as are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601–9675, that may exist in, on, or under lands, easements, rights-of-way, relocations, and disposal areas that the Federal Government determines to be necessary for the construction or operation and maintenance of the GNFs and the ecosystem restoration features. However, for lands, easements, or rights-of-way that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigation unless the Government provides the non-federal sponsor with prior specific written direction, in which case the non-federal sponsor shall perform such investigations in accordance with such written direction;

h. Assume complete financial responsibility, as between the Federal Government and the non-federal sponsor, for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, rights-of-way, relocations, and disposal areas that the Government determines to be necessary for the construction or operation and maintenance of the project; and


i. Agree, as between the Federal Government and the non-federal sponsor that the non-federal sponsor shall be considered the operator of the local service facilities and the ecosystem restoration features for the purpose of CERCLA liability, and to the maximum extent practicable, perform its obligations in a manner that will not cause liability to arise under CERCLA.

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9. The recommendation contained herein reflects the information available at this time and current departmental policies governing the formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the Executive Branch. Consequently, the recommendation may be modified before it is transmitted to Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the state of Connecticut and the Connecticut Port Authority, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

*SUPERB PROJECT -
BENEFICIAL USE OF
DREDGED MATERIAL AND
SAFE NAVIGATION FOR
CONNECTICUT AND THE
NATION!!*



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