

Memorandum Thru:

Ruth M. Ladd, Chief, Policy Analysis and Technical Support Branch

For: Peter Tischbein, Project Manager, CENAE-R-C

Subject: Suitability Determination for the City of Rockland's Fish Pier, Rockland Harbor, Rockland, ME, Application Number NAE-2015-01695

1. Summary:

Based on an evaluation of the data that characterize the material proposed to be dredged, this memorandum addresses the suitability of that material for disposal as proposed in accordance with applicable regulations. The Marine Analysis Section (MAS) finds that the data provide sufficient information to satisfy the evaluation and testing requirements of the appropriate regulations.

These sediments **are not** suitable for unconfined open water disposal at the Rockland Disposal Site (RDS) as proposed.

There are alternatives available to the applicant. These include upland disposal or biological testing of the materials to determine if they are suitable for unconfined open-water disposal.

2. Project Description:

The applicant is proposing to dredge an area of approximately 0.97 acres to a depth of -9.0' MLW in Rockland, ME. A volume of approximately 10,000 cu. yds. would be produced. The applicant proposes to mechanically dredge this material and dispose of it at the Rockland Disposal Site (RDS). It is not known when this area was last dredged; but it would have been prior to 14 years ago.

3. Sampling and Testing:

MAS prepared a sampling plan for this project on October 23, 2015. The plan called for five cores (R-1 to R-5) to be taken from the project area. On February 5, 2016, MAS created a compositing plan for the sediment chemistry tests using grain size data submitted by the applicant. The samples ranged from 1.1% to 81.6% fines. (See the sampling plan graphic for details.) Bulk sediment chemistry analyses were conducted on two (2) composite samples (where Composite 1 was comprised of samples R1, R2, and R3; and Composite 2 was comprised of R4 and R5).

Comparison to **Rockland** Reference Values

Metals: Most of the metal concentrations in the sediments represented by Composite 1 were below or near "two times the mean plus twice the standard deviations, of the contaminant concentrations found at the RDS reference site. However, in the sediments represented by Composite 2, several metal concentrations exceed the RDS reference values. Specifically, cadmium (Cd), copper (Cu), lead (Pb) and mercury (Hg) concentrations for the project are more than twice the "mean plus two times the standard deviation" of the RDS reference value. See the attached spreadsheets for details.

PAHs: In the project sediments, either most (i.e., in Composite 1) or all (i.e., in Composite 2) PAH concentrations exceed the RDS reference values. Specifically, all but four (fluorene, naphthalene, acenaphthylene, and acenaphthene) PAHs in Composite 1 sample sediments, and ALL PAHs in Composite 2 sample sediments are more than two times the RDS reference site value, and five PAHs (phenanthrene, fluoranthene, pyrene, benzo(a)anthracene, and chrysene) concentrations are at least 10 times reference values. See the attached spreadsheets for details.

PCBs/Pesticides: For PCBs, most of the congener concentrations in the project were above the analytical detection limits. For pesticides, most of the contaminant concentrations in the project were near or below the analytical detection limits in all of the project sediment samples tested. See the attached spreadsheets for details.

4. Regulations governing the determination of the suitability of dredged material for open-water disposal:

The disposal of dredged material seaward of the high tide line in Rockland Harbor is regulated under Section 404 of the Clean Water Act (CWA).

Subpart G of the Section 404(b)(1) guidelines (40 CFR Section 230.60 and 230.61) describes the procedures for determining the suitability of this material for open-water disposal, including any relevant testing that may be required.

40 CFR 230.60 General Evaluation of Dredged or Fill Material

(a) This subsection states that further testing may not be necessary if it could be determined with the evaluation under paragraph (b) that the sediment is not a carrier of contaminants. Dredged or fill material is most likely to be free from pollutants when it is composed primarily of sand, gravel or other naturally occurring inert material.

CENAE-R-P

SUBJECT: Suitability Determination for City of Rockland's Fish Pier, Rockland Harbor, Rockland, ME, Application Number NAE-2015-01695

Based upon our Tier 1 review, a portion of the proposed dredge sediment is **not** primarily sand, gravel or other inert material so this subsection does **not** apply. Also, our Tier 1 review evaluation under paragraph (b) below indicates the proposed dredge sediment is a carrier of contaminants so this subsection does **not** apply.

(b) This subsection states that the site should be evaluated to determine whether it is sufficiently removed from sources of pollution. These factors include records of spills or potential routes of contamination, like outfall pipes.

Available information indicates that this municipal fish pier has experienced 35 spill events since 2005. Most of these were fuel oil spill events and indeterminate-source surface sheens.

(c) This subsection states that further testing may not be necessary if certain conditions and circumstances make it unlikely that the dredged material would degrade the disposal site. For the project to meet this exclusion, the material to be dredged and the material at the disposal site must be adjacent to each other **and** composed of the same materials **and** subject to the same sources of contaminants.

As the project site is not adjacent to the disposal site, this exclusion does not apply to this project.

(d) This subsection states that further testing may not be necessary if the material to be dredged is constrained, both to reduce contamination within the disposal site and to prevent transport of contaminants beyond the boundaries of the disposal site.

As such constraints in handling are not proposed, this subsection does not apply.

40 CFR 230.61 Chemical, Biological and Physical Evaluation and Testing

(a) This subsection describes the purpose of Part 230.61 and does not give any criteria for the evaluation of sediments.

(b) This subsection states that dredged material may be excluded from testing for water column effects and benthic bioassays if it is determined, by evaluation under 40 CFR Part 230.60, that the likelihood of contamination levels that could exert ecological impacts (as defined in Part 230.61) is acceptably low.

CENAE-R-P

SUBJECT: Suitability Determination for City of Rockland's Fish Pier, Rockland Harbor, Rockland, ME, Application Number NAE-2015-01695

Such testing is needed, as it was determined, based on evaluation under Part 230.61(c), that the likelihood of contamination is high.

(c) This subsection states that an inventory of the concentrations of the contaminants of concern would aid in an environmental assessment of the impact of their disposal on the designated disposal site. Such an inventory was performed at the dredge site. See Section 3 above and the attached spreadsheets for details. The dredged materials should have more than minimal impact at the disposal site.

CENAE and the federal agencies did not think an analysis of biological community structure was needed for this project.

(d) This subsection states the importance of the disposal of dredged materials on the characteristics of the physical substrate. MAS determined that the likelihood of physical effects from the disposal of the dredged material at the disposal site should be minimal. Although some benthic marine organisms will be buried by the disposal of the project materials, the disposal site should be rapidly re-colonized.

5. Copies of the project data and of the draft suitability determination were sent to the ME DEP and the USEPA. The USEPA concurred with this determination. The ME DEP did not respond within the 10 business day review period and agency concurrence is assumed.

6. If you have any questions, please contact me at (978) 318-8170 or paula.g.kullberg@usace.army.mil.

Paula Kullberg
Project Manager
Marine Analysis Section