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DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

February 12, 1993

Programs/Project Management Directorate

Ms. Gayle Garman
EPA
Waste Management Division
J.F. Kennedy Building
Boston, MA 02203

Dear Ms. Garman:

This letter concerns the New Bedford Harbor Superfund site and provides a response to a question received from the Fairhaven Board of Health during the comment period on the proposed plan for the Estuary, Lower Harbor/Bay portion of the site.

The Corps of Engineers developed estimates of contaminant loss from confined disposal facilities (CDFs) as part of our evaluation of dredging and dredged material disposal methods. The information is contained in Reports 5 (Evaluation of Leachate Quality) and 11 (Evaluation of Conceptual Dredging and Disposal Alternatives) of the Engineering Feasibility Study. A conservative estimating approach was used which included laboratory leaching tests performed on sediments from the estuary and modeling of the hydraulics of a CDF. Mass releases of contaminants were estimated for the remedial alternatives presented in Report 11. The results of the studies indicated that the migration of metals with leachate was not a major concern. Estimates for the release of copper were developed, however, for both the short term (construction period) and long term (30 years). The mass of copper released in the short term is estimated at 5 kg with an additional kg lost through the remainder of the 30 year period.

An additional evaluation of contaminant loss through leachate was reported to you in October 1992 in a memorandum from the Waterways Experiment Station. This evaluation focused on CDF 1 and estimated the release of lead on an annual basis over a 20 year period for an uncapped CDF. Annual releases were in the 0.03-0.05 kg range.

Please contact me at 647-8895 if there are any questions or if additional information is needed.

Sincerely,
Mark J. Otis
Mark J. Otis
Project Manager

February 4, 1993 Memorandum from Gayle Garman
Responses to Questions/New Bedford Harbor Proposed Plan

1. The construction of the 3 shoreline confined disposal facilities will involve the filling of extensive areas that are currently within the tidal zone and will also require the use of a narrow strip (approximately 100 feet) of land along the shoreline. Access to the three sites will also be needed during both the design and construction phases. The market value of this land would be determined in the early stages of the design period. Several factors which will effect the overall acquisition price include:

- * a significant percentage of the property is publicly owned;
- * no structures or other facilities will be impacted;
- * no water dependent activities will be impacted at the privately owned areas; and
- * the majority of the area to be impacted is below the high water line.

EPA believes the cost of acquiring this property will not be a significant percentage of the cost of remediating the site and that the cost estimates contained in this Record of Decision are appropriate for this stage of project development.

2) EPA conducted a pilot study of dredging and dredged material disposal methods in New Bedford Harbor in 1989-1990. This study was carried out in a portion of the harbor where the physical conditions are representative of a majority of the estuary portion of the site. The study provided the opportunity to evaluate various operating procedures for the cutterhead dredge. Those procedures found to be most effective will be used to remediate the site and were used in developing the production rates and cost estimates contained in the Feasibility Study and this Record of Decision. EPA believes that they are representative of the actual production rates that will be attained and that the cost estimates are appropriate for this stage of the project's development.

3) Settlement of the confined disposal facilities (CDF) in-water dikes is anticipated due to the poor foundation conditions at these sites. Settlement of 2-3 feet has been measured on the in-water dike constructed during the pilot study in 1989. The structures will be designed to reflect the poor foundation conditions and special construction techniques will be required. Extensive geotechnical investigations will be carried out at each CDF location during the design phase and estimates of settlement will be refined. EPA believes that the conceptual designs and cost estimates contained in the Feasibility Study are appropriate for this stage of the project's development.

5) The diagram shows the conceptual design for the cap on confined disposal facilities (CDF) and is the basis for the cost estimates which appear in the Feasibility Study. The specific design

which appear in the Feasibility Study. The specific design developed for each CDF may vary somewhat but the intent is to install an impermeable barrier that will require minimal maintenance (grass surface at CDFs 1 and 1B with a pavement/crushed stone surface at CDF 7). The cap for each CDF will not be designed until that facility has been filled with dredged material and the actual physical conditions can be investigated. The final caps will not be in place until 2-3 years after the facilities have been filled with dredged material. The dredged material will have drained and consolidated by this point and it may be necessary to accelerate the consolidation process during cap installation to insure a stable base. The conceptual design of the cap described above appears to meet the state's requirements and site specific features can be modified during the design phase.

6. The issue of gas buildup beneath a capped confined disposal facilities and the need for a gas collection system has not been addressed in any detail. During the design period for the final caps, field investigations to determine the potential for gas buildup and its impact would be carried out and the specific designs would include any special features required to address this situation.