



STFATE Runs for Raritan Bay Reaches 1, 2 and 3 Dredged Material Disposal at HARS for CENAN

ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

Performed STFATE model runs of open water disposal of Raritan Bay Reaches 1, 2 and 3 composite dredged materials at the HARS. Analyzed the standard elutriate test results for the contaminant of concern as part of the Tier 2 analysis. Analyzed the water column toxicity results to determine the dilution required for the limiting permissible concentration as part of the Tier 3 analysis. Summarized the disposal boundary offset values and time to achieve water quality compliance as a function of barge size (3500 and 6000 cubic yards) in a table documenting the results of the review and modeling.

Period of Performance:

Start date: 2 November 2023 Completion Date: 12 November 2023

Benefits of the Response to the USACE Dredging/Navigation Program:

The modeling and analysis provided the technical documentation to demonstrate water column compliance with MPRSA 103 requirements.

Deliverable:

The technical response to the New York District included STFATE model input and output files for three reaches using two barge volumes for each reach, a spreadsheet calculating dilution requirements and materials volumetric fractions, and a table of required mixing zone and corresponding placement offsets from the disposal site boundaries as well as the times to achieve water quality compliance within the disposal site for copper in a Tier 2 evaluation and suspended phase toxicity LPC in a Tier 3 evaluation.



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers
Operations and Maintenance navigation and dredging missions

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