



Dewatering of Material Dredged from the Cuyahoga River Old Channel

ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The USACE Buffalo District requested assistance in estimating dewatering characteristics for mechanically dredged material from the Cuyahoga River Old Channel (CROC). The material will be dredged in late summer and stockpiled in a Confined Disposal Facility (CDF) for reuse/removal the following Spring. The Buffalo District wanted to know whether the density and water content of the dredged material would be suitable for removal and transport by trucks to restore CDF capacity for the next dredging season. In particular, the district needed to know whether the material would meet the removal contractor's requirements for rehandling the material and specifically whether the material would pass the paint filter test for waste materials.

In response to the request, two actions were undertaken. First, paint filter tests were run on samples of CROC sediment to determine the maximum water content that would pass the paint filter test. Second, the proposed stockpile was modeled using PSDDF to predict the drainage, desiccation and consolidation of the stockpile and to compute the resulting water content throughout the depth of the stockpile as well as the average water content of the stockpile. These water contents were then compared with the results of the paint filter test to determine the suitability of the dredged material for rehandling and transport by trucks.

Period of Performance:

Request date: 1 August 2024 Completion date: 22 September 2024

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

The response provided critical information to the design team such that the design would provide adequate dewatering and drying to pass the paint filter test but as a whole the dredged material will remain saturated and very soft.

Deliverable:

An e-mail providing a summary of the analysis and results were provided.



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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