

DCHWS 2019 Abstract Submission #12

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CATEGORY: Remedial Design/Remedial Action Project Management

Partnering Success & Lessons Learned at the Former Zephyr Oil Refinery Project Site

Sevenson Environmental Services, Inc. (Sevenson; Prime Contractor), in conjunction with EA Engineering, Science, and Technology, Inc., PBC (EA; Design Engineer), provided remedial dredging and site restoration services for the U.S. Environmental Protection Agency (EPA) and project partner, Michigan Department of Environmental Quality (MDEQ), at the Former Zephyr Oil Refinery Suppression Ditch Site and wetlands located within the Muskegon Lake Area of Concern (AOC). Under an existing Great Lakes National Program Office Cleanup Services (II) Contract, the Sevenson-EA team mechanically dredged over 49,000 CY of lead- and petroleum-contaminated sediments from an impacted ditch and surrounding wetlands. The team's scope of work also required the installation of a temporary cofferdam (an assemblage of earthen berms and steel sheet piles) to minimize floodwater infiltration from the Muskegon River; construction of a temporary dewatering pad to facilitate gravity drainage of dredged sediment; and design, construction, operation, and maintenance of a temporary, on-site 700-GPM Waste Water Treatment Plant (WWTP), which treated and discharged over 91M gallons of impacted water. The successful execution of this project (which included completing over 60,000 safe workhours without a lost-time incident) was conducted under the Great Lakes Legacy Act (GLAA) to support mitigation of beneficial use impairments (BUIs), specifically loss of fish and wildlife habitats.

A project with this kind of multifaceted scope required a robust and fluid regulator-stakeholder partnership program, particularly one based on trust, transparency, and communication. This project, executed through the GLLA, involved the collaboration of over 10 federal, state, and local agencies, including the EPA, USACE, MDEQ, Illinois Sea Grant, MDEQ (Oils, Gas, and Minerals Division), West Michigan Shoreline Regional Development Commission, and the Michigan Office of Natural Resources. In addition to this large partnership network, the EPA employed a new contracting model to achieve this project's remedial design and construction objectives. This new contracting model challenged conventional understandings of "Client," as all involved entities were funding the work and therefore shared a vested interest in the project's outcome—that is, "Client" was no longer a single entity, but rather a collective status shared by each involved agency. As such, the Sevenson-EA team maintained lines of communication and employed project management tools (to be discussed in this presentation) throughout the project, which were essential to managing unforeseen issues efficiently.

In light of this project's unique features, the Sevenson-EA team has collected lessons learned based on a range of site-specific project challenges, such as asbestos-impacted soil; high water levels; a leaking historic oil production well; and redesign of emergent and deep marsh areas due to structural concerns. As this presentation will articulate in detail, adaptive management and communication tools were used to address these unexpected challenges with minimal disruption to the project schedule. Use of these tools, coupled with effective partnership among various federal and state agencies, enabled the Sevenson-EA team to complete this challenging project safely and successfully (recipient of the 2019 WEDA Environmental Excellence Award for Environmental Dredging).

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Mr. Shaw has more than 15 years of experience in the areas of civil, environmental, and dredging engineering; containment facility design and dredged material disposal techniques; environmental dredging and processing of sediments; marine construction cost estimating and construction management; water treatment; coastal permitting; channel design; dredging production analysis; and dredge/marine equipment selection. Prior to managing sediment remediation projects and leading Sevenson's CCR Division, Mr. Shaw served as a vice-president for the largest dredging engineering firm in the nation, designing and managing projects on the eastern seaboard.

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Submission Received: 12/20/2019 3:19:39 PM