

# Lessons Learned for Sediment Remediation Design in the Great Lakes from Recently Constructed Remedies

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**Background.** The U.S. Environmental Protection Agency Great Lakes National Program Office in partnership with non-federal sponsors continues to make strides in the Great Lakes with contaminated sediment cleanup under the Great Lakes Legacy Act while integrating habitat restoration. An important aspect for the continued improvement of the sediment remediation design process are lessons learned during the construction phase where the greatest proportion of project costs are invested, and to adopt relevant insights in subsequent designs. Continued improvement in remediation design allows for more accurate construction cost estimating (which is necessary for budgetary considerations and establishing representative cost-sharing agreements with non-federal sponsors), reduced construction costs, shorter implementation schedules, and more implementable designs.

**Approach.** Engineers responsible for remediation design projects always benefit from gaining a better understanding of the remediation contractor's approaches to implement the design. As part of the development of the remedial design, the design team must develop the most likely approach a construction contractor will undertake as part of the design process. While means and methods are often left to the contractor, the design process must try to account for the construction activities and appropriately address management of construction implications (sediment resuspension, water quality considerations, stability and consolidation of constructed remedies). This presentation will draw upon three Great Lakes Legacy Act projects in which the same individuals involved with the remedial design have been involved in the construction oversight; and therefore, have an ideal perspective to identify lessons learned for future sediment remediation design. These projects include Lincoln Park/Milwaukee River Channel Sediments Site, Milwaukee Estuary Area of Concern, Wisconsin; Former Zephyr Oil Refinery – Fire Suppression Ditch Area, Muskegon Lake Area of Concern, Michigan; and depending on construction schedule, information that can be shared for Lower Rouge River – Old Channel, Rouge River Area of Concern, Michigan.

**Results/Lessons Learned.** This presentation will examine lessons learned, as well as identification of important considerations for sediment remediation design, based on insights that have been gained from construction oversight or construction observation roles for completed Great Lakes Legacy Act contaminated sediment remedies.