

Thea Foss Waterway Remediation Project: An Example of the Risk-Based, Multi-technology Approach to Contaminated Sediment Management

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Introduction: The design for the Thea Foss Waterway was started in 1994 and completed in 2002. Construction began in 2003 and was completed in 2006. Monitoring is now ongoing.

This project is an example of the risk-based, multi-technology approach to contaminated sediment management. This approach, which is recognized by USEPA and others, is a highly effective strategy for addressing contaminated sediments at complex urban and post-industrial mega-sites.

The cleanup of the 2,440-meter- (8,000-foot-) long Thea Foss Waterway involved environmental dredging, capping, and monitored natural recovery. Specific activities included:

- Construction of a confined disposal facility (CDF) to contain about 460,000 cubic meters (525,000 cubic yards) of dredged material;
- Construction of approximately 5.7 hectares (12 acres) of intertidal habitat on the bayward face of the CDF closure berm and adjacent areas;
- Environmental dredging of over 380,000 cubic meters (422,535 cubic yards) of contaminated sediment within the navigation channel;
- Capping of about 8.1 hectares (20 acres) of sediments in channel and harbor areas; and
- New slopes and erosion protection on about 3 kilometers (10,000 feet) of shoreline.

The dredged material was disposed of in a nearshore CDF in the nearby St. Paul Waterway to create substantial new upland and intertidal habitat on the bayward face of the CDF closure berm. The dredging involved cuts of as much as 4.6 meters (15 feet) and intricate slope and waterfront rehabilitation.

Large contaminated sediment remediation projects such as the Thea Foss Waterway typically involve multidisciplinary design teams and complex design-level data acquisition. Also, these projects are generally subject to considerable community

involvement, participation by other responsible parties, and regulatory agency oversight. These attributes can present challenging conditions for both design and construction phases.

The design and construction aspects of this project offer numerous insights and lessons that will be valuable for future projects of any scale.