Fox River Sediment Removal Project

Location: Green Bay, Wisconsin

Site Issue: PCBs in river sediment.

Solution: Design and implement a remedy consisting of hydraulic dredging, sediment dewatering, and off-site disposal of PCB-containing sediments.

Client: Confidential

Total Cost: Confidential

Brief History

The Fox River between Lake Oshkosh and Green Bay, Wisconsin contains several Paper Mills. The mills recycled carbonless copy paper in the 1950's and 1960's. The recycling of the paper resulted in the release of some polychlorinated biphenyl (PCB) in the river. As part of the continuing efforts between the State of Wisconsin and the Paper Mills, a full-scale demonstration of sediment removal by hydraulic dredging will be undertaken in 1999 to measure the environmental impact versus benefit of sediment removal.

HE&C is part of a team for remedial design and remedial action bid package preparation for the Demonstration Project. The demonstration will remove 50,000 to 100,000 cubic yards of PCB-containing sediment from an area of the Lower Fox River in Green Bay, Wisconsin, known as Sediment Management Unit (SMU) 56/57. Previous investigations suggest that SMU 56/57 is one of several locations in the Lower Fox River where PCBs are present in the sediment at concentrations of potential environmental concern. The thickness of PCB-containing sediment is up to 10 feet and water depth over the SMU is up to 12 feet. HE&C's responsibilities include developing and implementing a sediment sampling and bench-scale testing program to obtain data for the remedial design, designing a sediment removal, dewatering, and disposal demonstration program, and preparing a contractor bid package.

Primary Activities Performed by HE&C Personnel

- Prepared a remedial design work plan.
- Developed a detailed pre-design investigation sediment sampling plan based on statistical significance and regulatory requirements.
- Designed and implemented a bench-scale sediment testing program to determine dredged sediment dewatering, material handling, and preconditioning requirements.
- Performed gravity sediment settling tests according to U.S. Army Corps of Engineers methods.
- Implemented an innovative sediment seepage consolidation test to design the dewatering lagoon.
- Performed bench scale water treatment tests to facilitate the design of a water treatment system for the hydraulic dredge carriage water.
- Performed bench scale sediment solidification tests to assess preconditioning for transport/disposal.
- Preparation of design documents and contractor bid packages for hydraulic dredging and sediment dewatering/disposal is ongoing.

HE&C