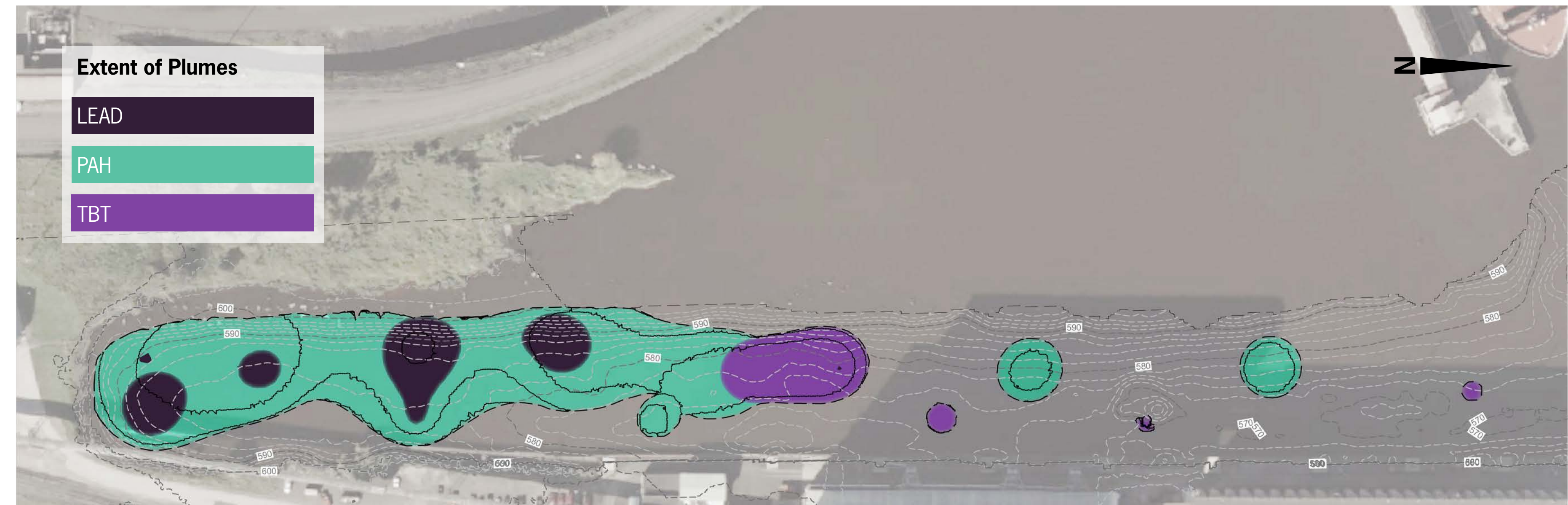
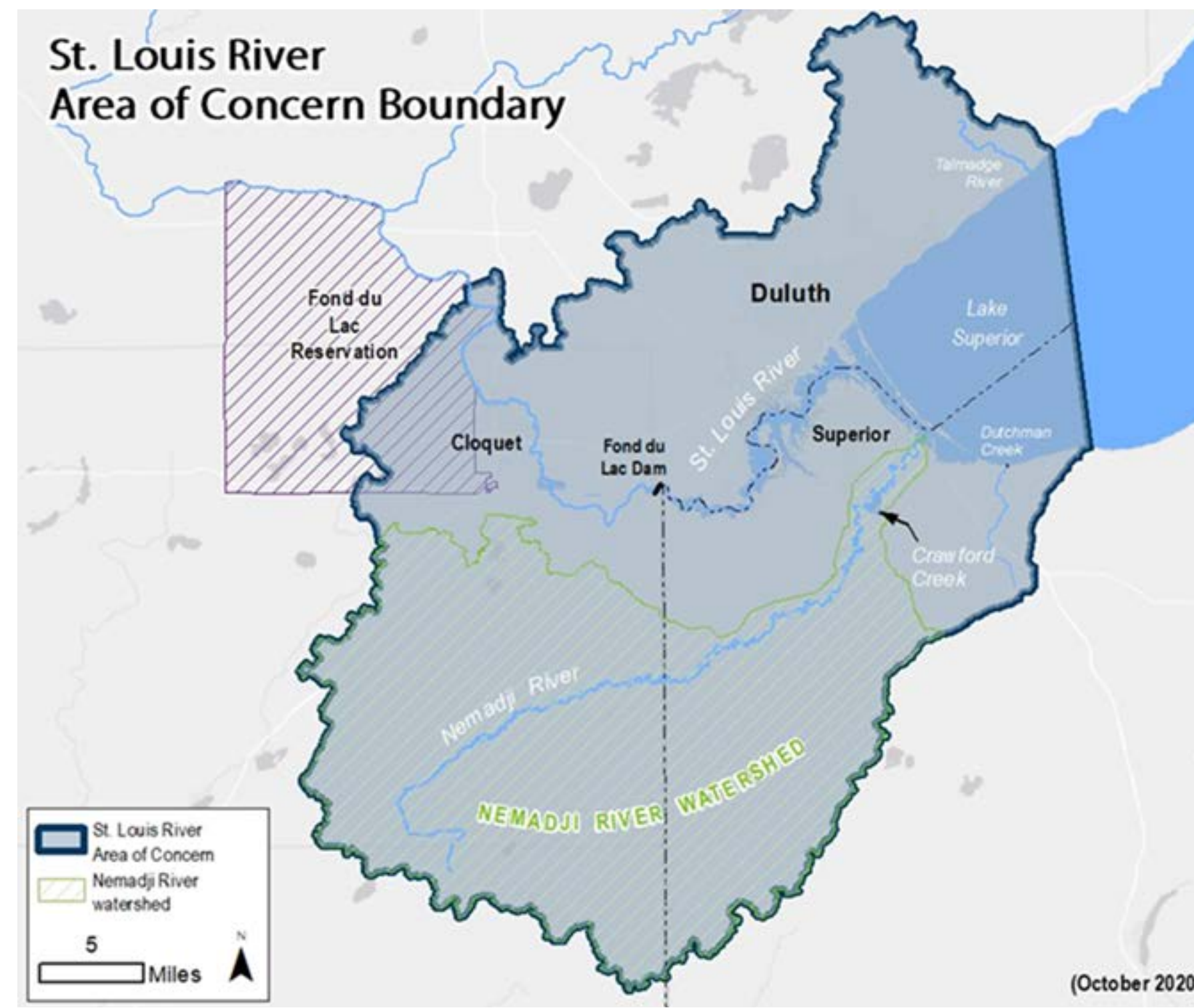


Superior Slips Dredge Project: **Situation**



What is an Area of Concern?

The remediation of polluted sediments in three slips in Superior, WI is part of a larger effort to clean up the St. Louis River Area of Concern. An Area of Concern (AOC) is an area in the Great Lakes that has a history of significant environmental degradation from human activities, preventing people and wildlife from fully using or enjoying the local waterways. In 1987, the lower St. Louis River was designated as one of 43 AOCs, due largely to habitat loss and contamination. All projects within the AOC program, including the proposed Superior Slips Cleanup Project, are intended to improve environmental health such that these designated impairments can be removed. So far clean up and restoration work has removed four of nine listed impairments in the AOC. Over 80 actions in Minnesota and Wisconsin will be completed before the AOC can be delisted. For more information on the AOC and other AOC projects visit: <https://dnr.wisconsin.gov/topic/GreatLakes/aoc.html>.



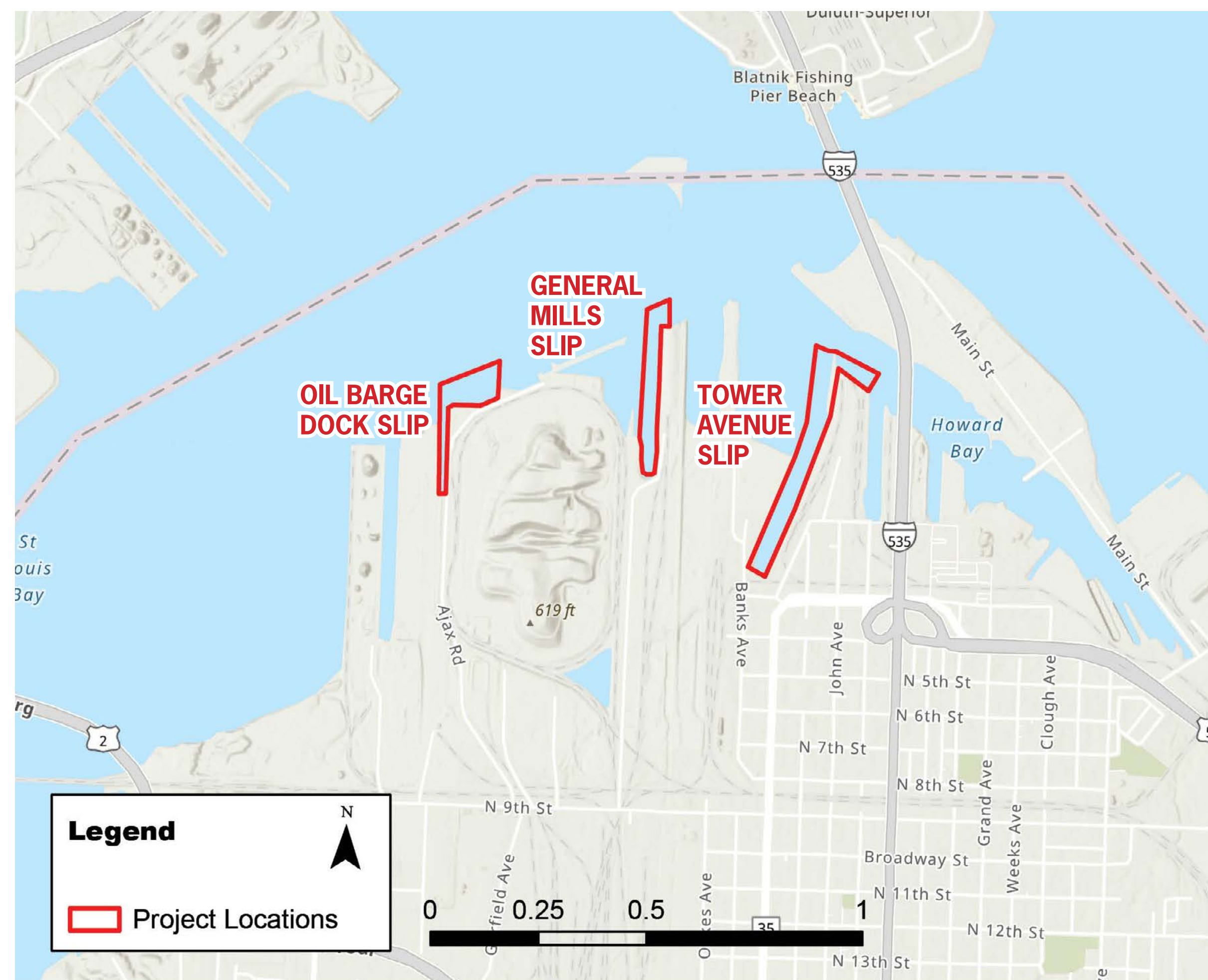
Example: General Mills Slip

Over a century of use has resulted in spills and practices which have left areas of polluted material suspended in the sediment at concentrations that impair beneficial uses of the waterway. Investigations of the General Mills Slip have found concentrations of lead, polycyclic aromatic hydrocarbons (PAH), and tributyltin (TBT). The locations of the contaminated areas are shown in the figure above. The other two slips included in this project demonstrate similar sediment contamination patterns.

The Superior Slips

- From West to East;
- Oil Barge Dock Slip
 - General Mills Slip
 - Tower Avenue Slip

These slips have been sampled for contamination and the Wisconsin Department of Natural Resources - working with local and federal partners and in collaboration with local stakeholders - has proposed activities to address sediment contamination.



Superior Slips Dredge Project: Action

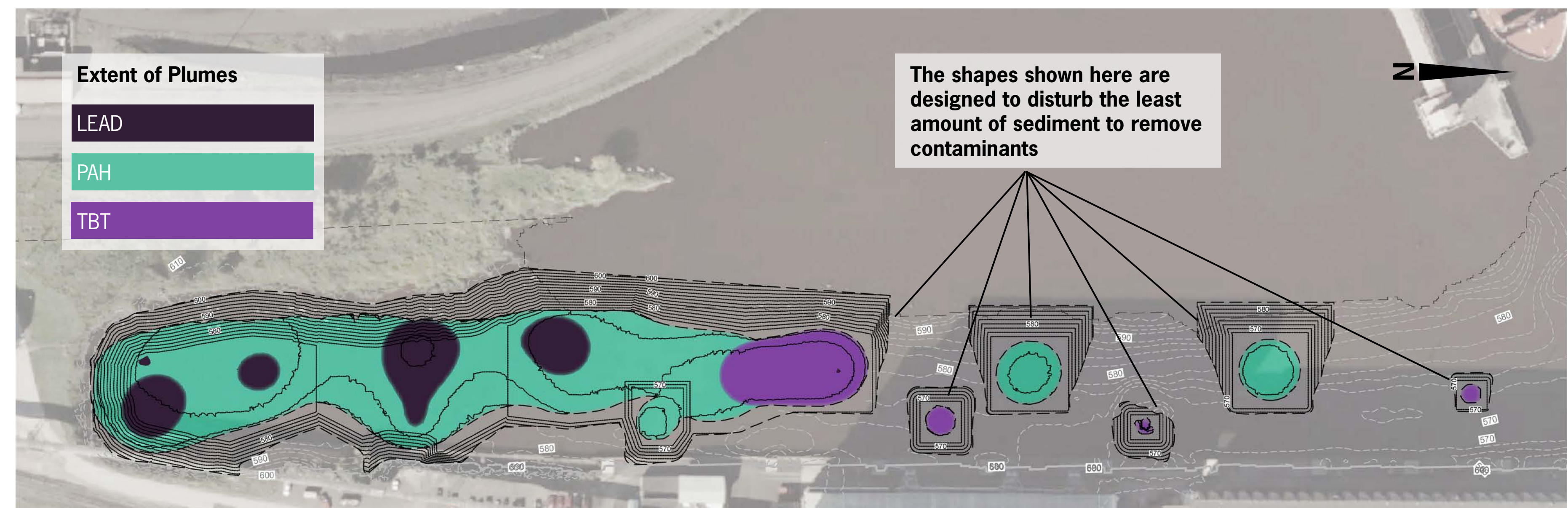


Removing Contaminated Sediment

The contaminated sediment will be dredged from the lakebed in the three slips. The plumes will be targeted to remove the maximum amount of contaminated sediment possible without spreading the contamination further. The figure to the right shows an example of how the sediment is targeted for removal in the General Mills Slip. Other precautions, such as turbidity barriers (shown below), will be put in place to ensure that any contaminants are contained within the project area.



The photo to the left shows a barge dredging sediment in an area protected by a turbidity barrier. A turbidity barrier is an underwater curtain designed to control the spread of sediment from dredging activities.



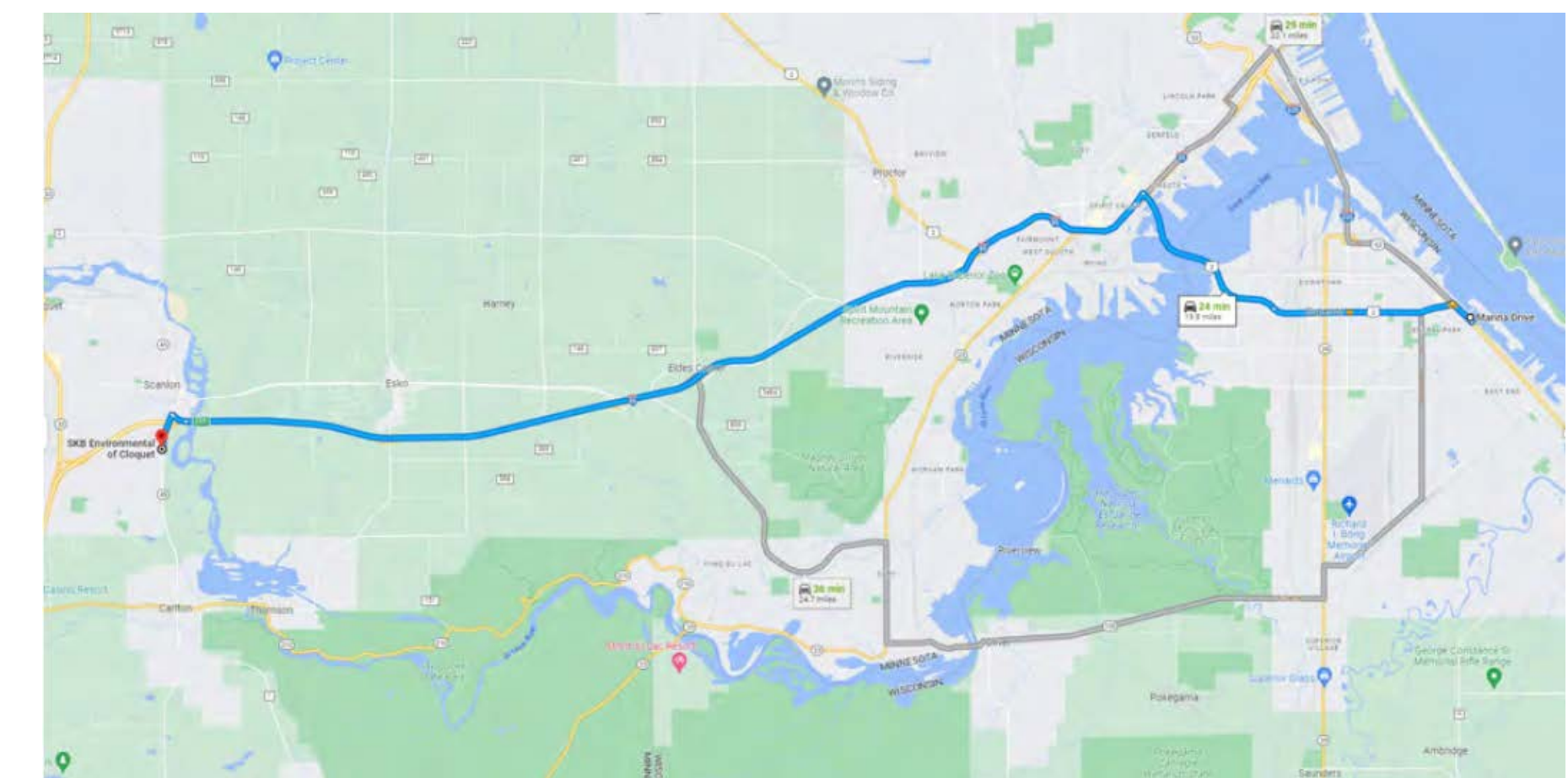
What Happens to the Sediment?

A sediment management area (shown to the right) will be located between the Tower Avenue and General Mills Slips to process and treat removed sediment. Barges containing dredged material will travel through the Port of Superior to offload contaminated sediment into the management area. Several options for treatment of the contaminated sediment are being considered. Generally the contaminated sediment will be dried and stabilized with the proper precautions prior to being taken to a landfill.



Where Does the Sediment Go?

The dredged sediment will most likely be transported by truck to landfills in Minnesota. The map to the right shows the potential route if contaminated sediments are disposed of at the SKB Landfill in Cloquet, Minnesota. Trucking routes will be chosen based on their appropriateness for the level of truck traffic that will be produced from this project and may deviate as traffic restrictions necessitate.



How Much Sediment Will Be Removed?

The clean-up of the three slips along with the C Street Slip will remove an estimated 234,385 cubic yards of sediment from the project area. This would be enough sediment to fill the SS Meteor on Barkers Island (pictured to the right) 31 times.



Tower Ave Slip 7,900 trucks 102,235 cubic yards		General Mills Slip 5,200 trucks 67,571 cubic yards	
Oil Barge Dock 1,900 trucks 24,579 cubic yards		C Street Slip* 3,000 trucks 40,000 cubic yards	

Each symbol represents 500 truckloads of sediment

**To be done as a separate project with EPA and SWL&P*