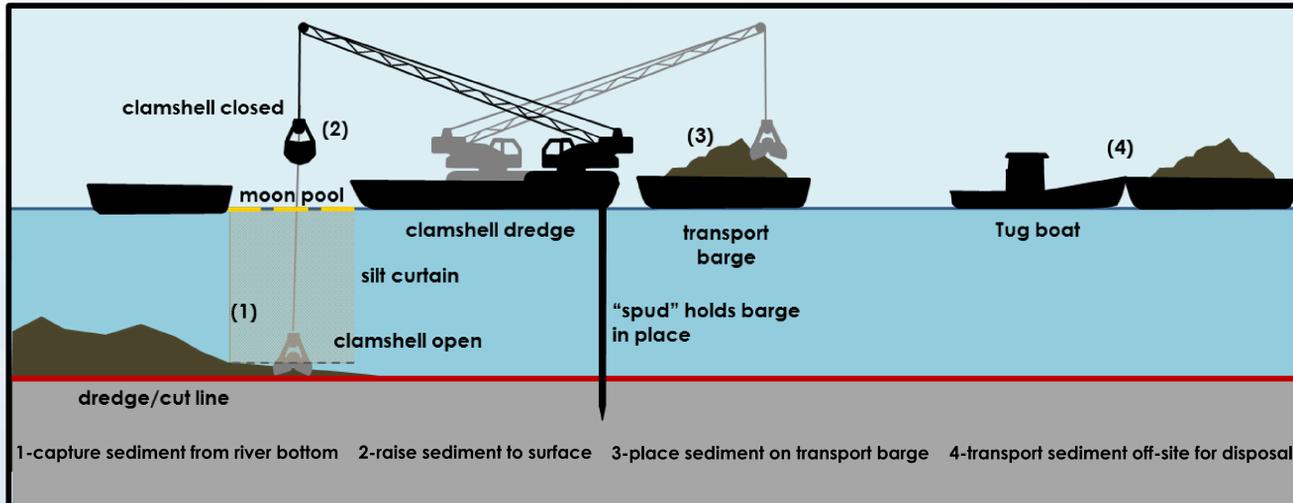


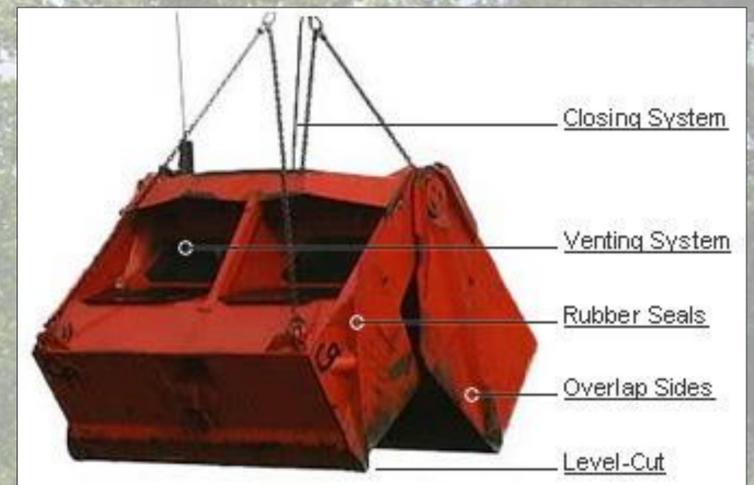
Dredging



Dredging is the removal of contaminated sediment. About 70,000 cubic yards of material across 10 acres will be removed from the Old Channel. The sediment will be loaded directly into barges. Barges will take sediment off site for disposal.



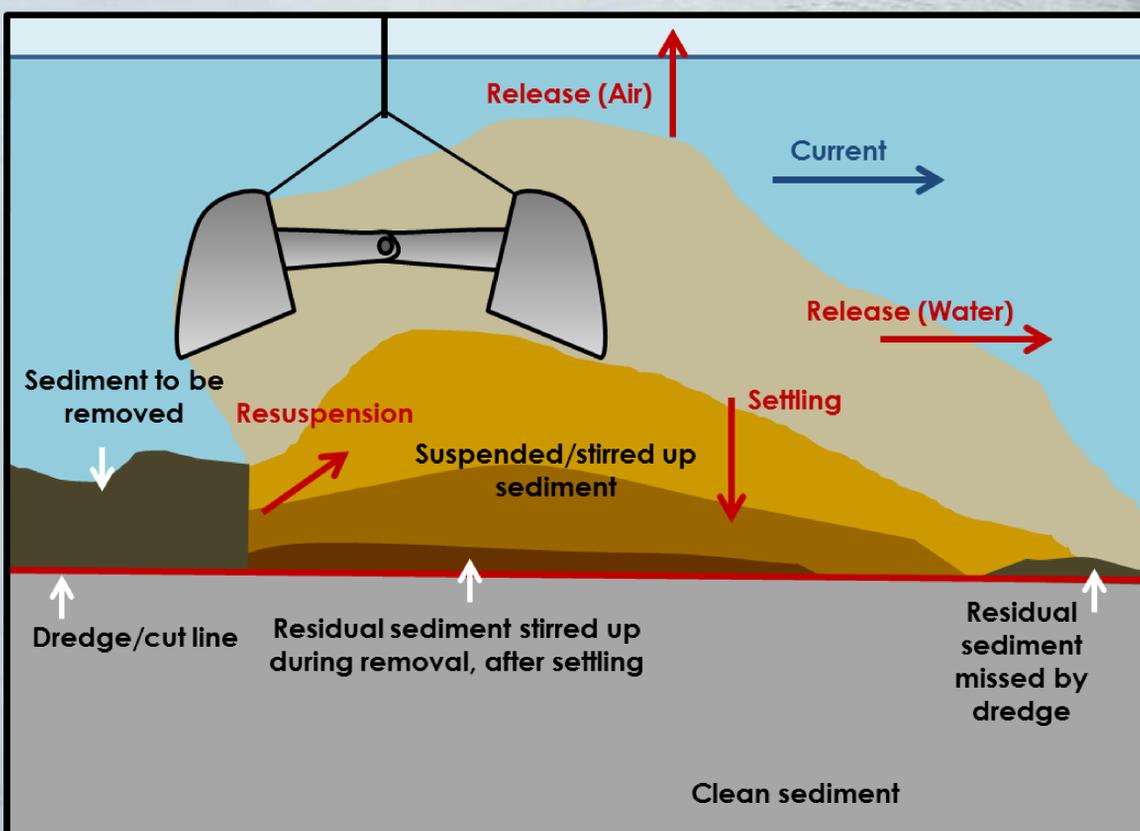
Mechanical dredging process



Common features for environmental buckets for minimizing short-term water quality impacts (Source: CableArm)

Design must consider "4 Rs"

- Manage resuspension of sediment
- Manage release of contaminants to the environment
- Manage residual impacted sediment
- Reduce environmental risks



Underwater view of what happens to sediment during dredging

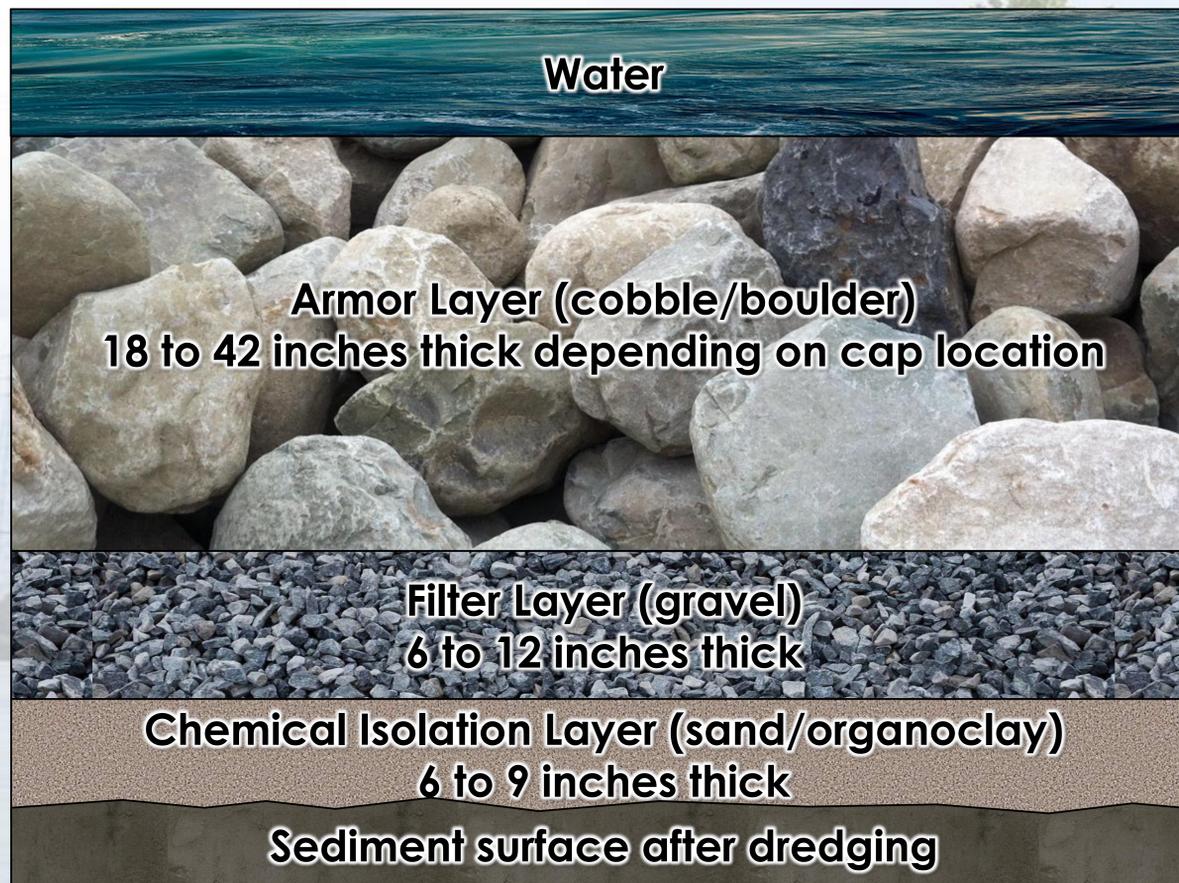


Crane dredging within moon pool and into barge for sediment transport.

Capping



Capping is the placement of clean material on the bottom of the river. After dredging the Old Channel, sand, clay, and rock will be placed over about 1 acre of the bottom of the river to isolate and cap contaminated sediment that cannot be removed safely.



Cap design for the Lower Rouge River Old Channel Project

How do Caps work?

Underwater caps provide both a physical and a chemical barrier to prevent exposure of aquatic species to contaminants in the sediments.

Have Caps Been Used at Other Sites?

Caps have been used throughout the Great Lakes and the U.S. to successfully remediate contaminated sediments. They are an effective way to immediately reduce contaminant exposures and risks associated with impacted sediment.

How Long Do Caps Last?

Caps are usually designed to last at least 100 years, but modeling indicates that they can be effective for even longer than that. The agreement between EPA and Honeywell requires long-term monitoring of the cap.

Water Quality Protection Measures

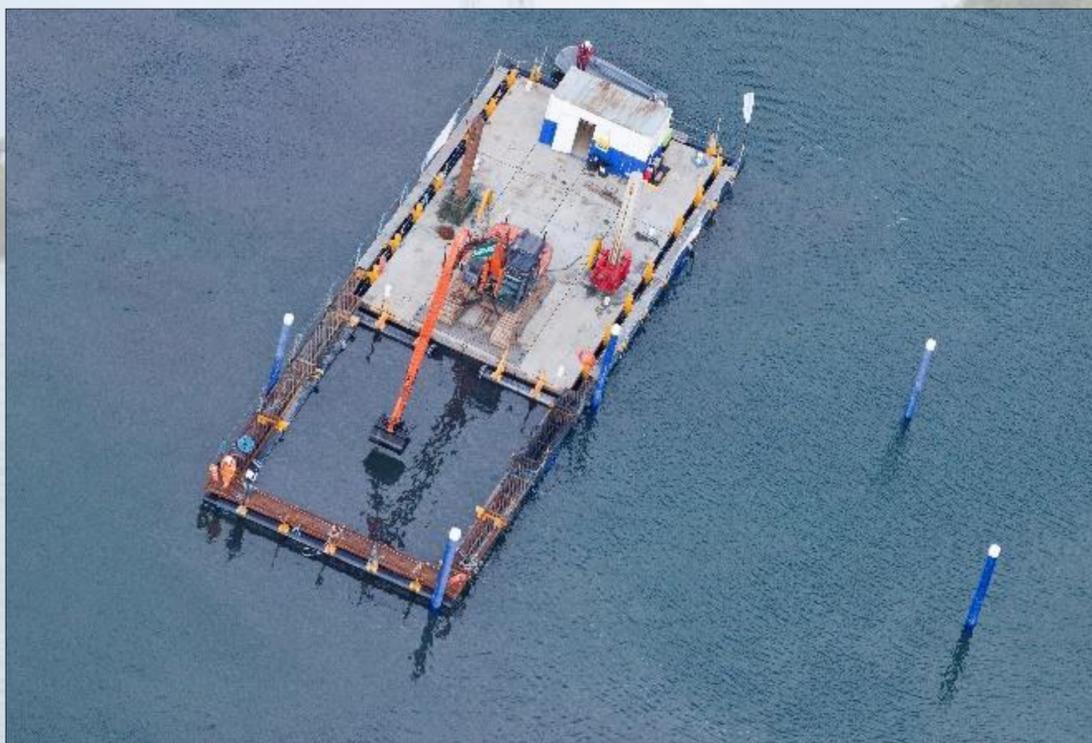


Water Quality

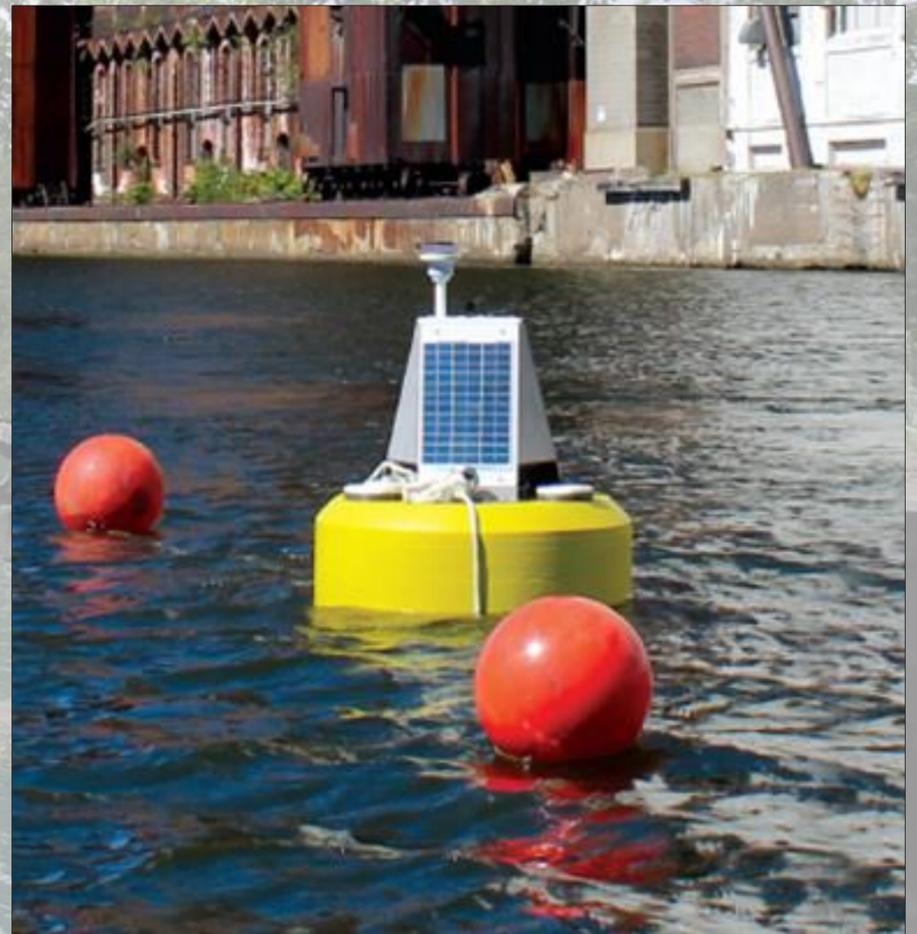
During dredging and capping, the river bottom can get stirred up. This can impact water quality nearby as well as downstream.

Silt curtains are specially designed barriers suspended in the water column to limit the movement of suspended sediment outside the work area.

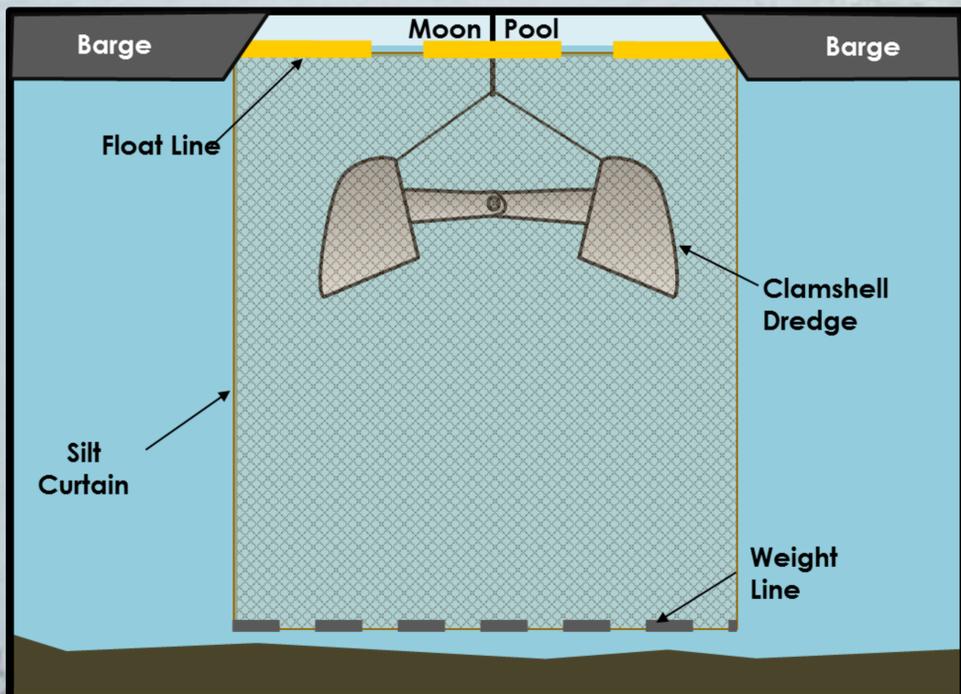
A series of silt "curtains" that extend from the surface to just above the river bottom will be configured to enclose the work area forming a "moon pool".



View from above of moon pool set up



Water quality monitoring buoy



Silt curtains around moon pool

Water Quality Protection Measures

The Michigan Department of Environmental Quality has established water quality requirements for the amount of suspended sediment allowable for this project. Water quality will be continuously monitored to make sure the requirements are met.