

# Activated carbon filled reactive mat chosen as low profile permeable capping remedy

Cleanup is required for land which was contaminated with a variety of chemicals as a result of ship construction, ship breaking, and barge construction at a site where heavy industrial use dates back to the early 1900's. In addition to the site's former industrial uses, several private and municipal storm sewer outfalls discharge directly to the Willamette river.



## PROJECT DETAILS

Zidell Marine Corporation  
Sediment Cap

Design Engineer:  
Maul Foster & Alongi, Inc.

Geotechnical Engineer:  
GeoDesign, Inc.

General Contractor:  
Quigg Brothers, Inc.

## LOCATION

Portland, Oregon, U.S.A

## PRODUCTS USED

REACTIVE CORE MAT® filled with  
Granular Activated Carbon (GAC)  
and Apatite II

## CHALLENGE:

The challenge was to provide a long-term solution that will isolate contaminated sediment and soil, while avoiding or minimizing potential environmental effects associated with the project. In addition, protecting the health of the public, wildlife, and the environment while allowing continued launching of modern steel barges. All of this must be accomplished with a cap that fits within the 16 inch space between the top of the support bents and the top of the launch rails.

## SOLUTION:

Membranes or clay liners can contain contaminants but cause a hydraulic blockage of groundwater and may decrease effectiveness of standard capping technologies in adjacent areas as a result of increased groundwater discharge. Use of the REACTIVE CORE MAT® technology allowed two reactive medias to be accurately placed in controlled amounts to chemically isolate contaminants and physically contain contaminated sediment, without disrupting groundwater. In the bottom of the launch ramp, the cap thickness was kept to an average of 12 inches.

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**RESULT:**

Use of the REACTIVE CORE MAT® technology provides a sediment cap that allows for the continued launching of barges without drastic changes to infrastructure, while also achieving site cleanup goals.

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