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Problem

The Walhalla SC Fish Hatchery has been operational for over 80 years. During this time, the 40 year old concrete raceways have experienced severe erosion and were badly in need of repair.

Due to the nature of the operations, the raceways could only be made available for rehabilitation work during the colder winter months; and for short durations only. This could have presented complications for the execution of the project. Conventional concrete repair materials require minimum temperatures for application as well as extended cure times.

Solution

Specialty Coating Solutions (SCS) proposed using a modified polymorphic resin to be used for this project. The material could be applied in below freezing temperatures and cures within hours of application; providing rapid turn-around of the project. The material also has a compressive strength of 18,000 psi; far stronger than typical 3,000 psi concrete.

The modified resin was made up into a mortar for the deep repairs. The resin was sprayed neat over the entire surface to establish a smooth finish. Aggregate was broadcast onto the top of raceway walkways to provide a slip-resistant surface.

Results

The project of lining 6 raceways (40,000 Sq. Ft.) was completed in 3 phases over the 2005-6 winter months. On average, 2 raceways 403 feet long and 16 feet wide were drained, cleaned, prepped and coated during 3-week spans. Winter snows and rain threatened the project at times, but with the use of containment and the rapid-curing resin, the project finished on schedule and within budget.

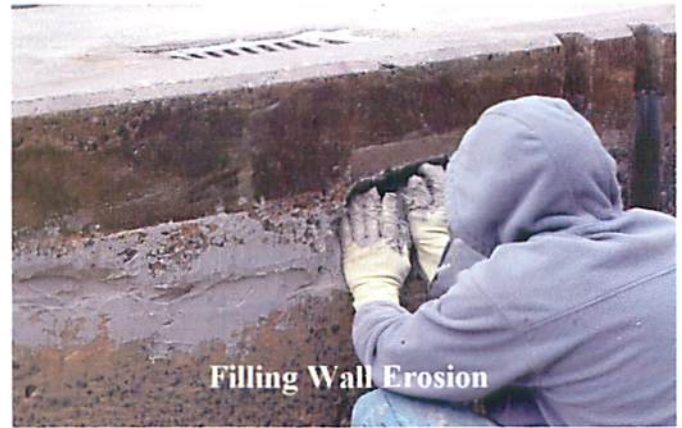
The smooth, even surfaces will minimize injury to the fish and make for easier cleanup of the raceways for many years to come.



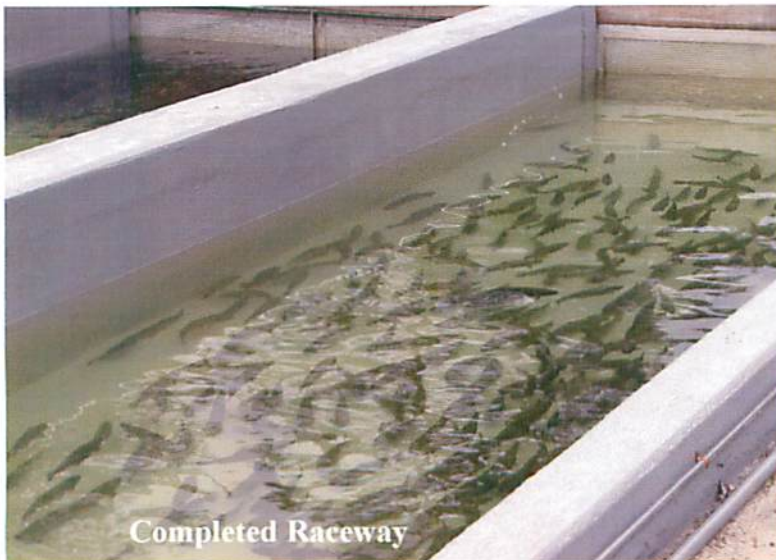
Severe Wall Erosion



Eroded Floor – Exposed Aggregate



Filling Wall Erosion



Completed Raceway



Applying Finish Coat