



HYDRAWRAP

STRUCTURAL COMPOSITE REPAIR SYSTEM

Market

Municipal

Challenge

Repair and reinforce a 54" RCP suspended outfall sanitary pipe that had failed at a joint and collapsed. The challenge was to complete repairs in situ and the location (under a pier and in the river levels) presented access problems and cost restraints.

Engineered Solution

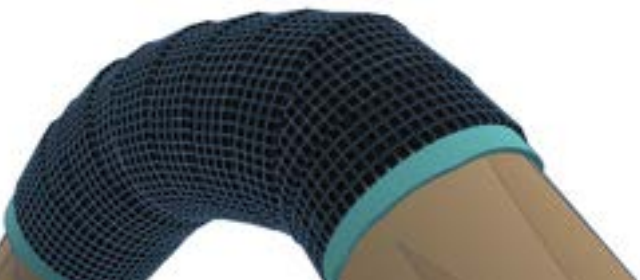
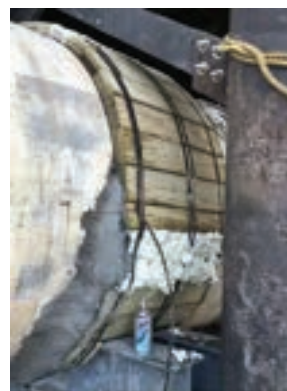
The engineering firm decided to use a mechanical clamp and wanted to reinforce the clamp to provide additional service life and protection. The HydraWrap Subsea Composite Repair system was selected to reinforce the clamps due to its capabilities of providing a structural reinforcement: its ability to cure in submerged and wet environments, and its ability to contour to the profile of the pipe and clamp.

Scope

A selected contractor realigned the pipe and installed the mechanical clamp. HydraTech Engineered Products designed a composite repair based on the operating parameters of the pipe and HydraTech Field Services performed the installation of the HydraWrap Subsea system. The exterior surface of the concrete pipe was prepared by high-pressure water blasting the surface to remove any dirt and biological growth. Once this process was completed, a high build epoxy was used to fill in all voids and to taper the edges of the clamp to the host pipe. The HydraWrap Subsea carbon fiber system was applied to encapsulate the mechanical clamp. A UV stable topcoat was applied to increase service life.

Solution

The installation crew and all materials were staged near the project and were able to complete the system installation safely and within the available work window that river levels permitted.



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