SEAWALL REPAIR NETWORK

Case Study

Repairing a Bowed & Cracked Seawall in Seattle

A homeowner in Seattle, Washington hired a Seawall Repair Network® member contractor Ram Jack West to make repairs on their deteriorating bulkhead. Loss of soil caused voids behind the wall, which undermined the stability of the structure resulting in bowing at the midspan and cracks in the concrete. The seawall was only about 30 years old, with plenty of lifespan left if repaired properly.

Repair Materials

The Ram Jack West crew used helical tiebacks, SW-RP1 stabilization/water cut-off material, and pressure release technology to restore the seawall.

SW-RP1 Uncured (Appearance brown liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 215 cP (± 215 mPa.s)
Density	(ASTM D3505-96 [2000])	± 70.92 lbs/ft³ (± 1.12 kg/dm³)

SW-RP1 Accelerator, Accelerator for SW-RP1 (Appearance: yellow - orange liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 75 cP (± 75 mPa.s)
Flash point	(ASTM D1310-86)	313°F (156°C)
Density	(ASTM D3505-96 [2000])	± 65.5 lbs/ft³ (± 1.05 kg/dm³)

Procedures

First, the crew installed the helical tiebacks, which were required due to a failure of the original Deadman Anchor. Next, they injected SW-RP1 stabilization/water cut-off material behind the structure for permanent support. Then, they installed pressure release technology to regulate any hydrostatic pressure caused by future water build-up behind the wall. (In addition, this contractor installed carbon fiber reinforcement on the outside of the wall.)

Results

The result was a permanently stabilized seawall and preservation of the property behind it. The homeowner benefited from a solid solution at about 80% less than the cost of replacement. The patent-pending SRN repair process implemented by Ram Jack West restored the seawall without any damage to the customer's adjacent property.