



FAST-TRACK BRIDGE REPAIRS KEEP HISTORIC HIGHWAY OPEN

Project Type: Bridge

Application:

Reconstruct the concrete portions of the bridge

Location: Mosier, OR

Project Dates: November 2018

Project Owner: ODOT

Contractor: Wildish Construction

Project Size: 100-foot, two-lane bridge

Product: Rapid Set[®] Low-P[™] Cement The Dry Canyon Creek Bridge near Mosier, Oregon, is part of the Historic Columbia River Highway, a 70-mile scenic roadway that runs through the Columbia River Gorge and provides drivers with impressive, often bird'seye views of foliage, dams and waterfalls. Built in the 1920s, the nearly 100-year-old bridge was experiencing significant flaking, delaminating and honeycomb cracking. Areas under the deck overhangs had exposed and corroded steel reinforcement; some deck joints and storm drains were leaking directly onto portions of the structures below, such as the arches, accelerating the deterioration of the concrete.

In November 2018, the Oregon Department of Transportation (ODOT) contracted Wildish Construction Co. of Fairview, Oregon to reconstruct the concrete portions of the bridge. The contractor was only allowed to completely close the bridge for one hour—a longer time period would have meant rerouting traffic 50 miles to bypass the 100-foot, two-lane bridge. For this reason, Rapid Set[®] Low-P[™] Cement was chosen as the repair material.

Low-P Cement qualifies as very rapid hardening (VRH) per ASTM C1600 (Standard Specification for Hydraulic Cement). The fast-setting repair material reaches high compressive strengths quickly—4500 psi within three hours. It also has low permeability and is corrosion-resistant, exhibiting exceptional long-life durability in harsh freeze-thaw conditions.

The contractor began work at 8 a.m., pouring one side of the bridge via volumetric mixer under weather conditions that alternated between sunshine and cold rain. During rainy periods, the crew tarped over work areas to keep the project moving. With repairs complete on one side of the bridge, they closed the bridge around lunchtime to transfer equipment to the other side; the repaired portion of the bridge was ready for light traffic an hour later. The crew began work on the other side of the bridge after lunch and had both lanes back to service by 6 p.m. that evening.

REPAIR MATERIAL GETS THUMBS UP

The bridge rehab was the first ODOT project to use Low-P Cement, and the transportation department treated the project as a trial implementation for the material's possible use in a larger unbonded overlay project along Interstate 5.

As part of the trial, Wildish Construction worked with concrete producer Nations Mini Mix of Springfield, Oregon to test different mix designs and pouring methods. They used Low-P Cement with fibers in some sections and without fibers in others. They employed continuous pours as well as poured in sections. The contractors also took advantage of the on-again, off-again rain, pouring both during sunshine and during rain.

As a result, ODOT went on to specify Low-P Cement for the much larger bonded overlay project on I-5.

CTS Cement Manufacturing Corporation manufactures Rapid Set professionalgrade cement products for concrete repairs and new construction projects. Contractors, owners, engineers and architects choose Rapid Set to eliminate problems they have with other concrete repair materials, to save time and money, when superior durability is required and results need to be aesthetically pleasing. For more information about CTS Cement and Rapid Set, please visit www.CTScement.com.

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