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88

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52

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BUILDING BRIDGES

Keeping the trains running while constructing a new bridge requires building the new bridge around the old one.

by Russ Gager

Rebuilding the United States' infrastructure is a current public goal, but heard less is the importance of rebuilding privately-held infrastructure. Some of the largest and most important infrastructure that always needs maintenance and replacement is U.S. railroads.

"I think probably the biggest challenge facing the rail industry is that most of their infrastructure is reaching the end of its service life," stresses Bob Hirte, rail

PROFILE

Hamilton Construction

www.hamil.com

Projected 2010 revenues:

\$100 million

Headquarters: Springfield, Ore.

Employees: 175

Service: Civil, bridge construction

Bob Hirte, rail division manager:

"There's more political support for the rail industry than there has been in the past."

In 2009, Hamilton Construction completed the work on the 2,040-foot-long wood bridge in Albany, Ore.

division manager for Springfield, Ore.-based Hamilton Construction. "A lot of the bigger Class 1 railroads have invested tremendous amounts of money to upgrade their infrastructure. But even with the amounts of money they're spending, it's not enough."

A recent project for Hamilton Construction was replacing a 2,040-foot-long wood bridge in Albany, Ore., with a concrete and steel one. Albany is in the Willamette Valley, south of Salem in the middle of the state. The project was built for the Portland and Western Railroad, one of the larger short lines that provide service between Eugene and Portland, Ore., and several coastal communities over 538 track miles.

The railroad bought the materials for the project. Hamilton's contract for equipment and labor was \$3 million overall. Hirte estimates the cost of the entire project was \$10.8 million.

"That was a massive project," Hirte exclaims. "We drove almost 22,000 linear feet of steel pilings in the ground for it."

Construction of the bridge started in November 2008 and was finished in June 2009. "We used steel pilings and then precast concrete to construct the bridge," Hirte explains. "We had precast concrete caps – which are part of the substructure of the supports – and then we used precast concrete box girders that

create a tub. The track sits in the tubs. They have some openings for water to drain through, but basically with the concrete tub, you put the track inside of it, and you fill the tub with ballast like you'd have to do on regular track work."

Amazingly, the tracks were kept open during the entire construction of the bridge. "It's tight, but it can be done," Hirte insists. "You just have to plan your work out. You literally build through the existing trestle, and you have to schedule your work around the trains themselves. So when you get a couple of hours in between trains, you do a couple hours of work, and then you shut back down when the train comes through."

"We call it a curfew, and when we get our curfew, as soon as the last train goes through, the rail is temporarily shut down," he explains. "We start tearing off the existing tracks, tearing off the existing bridge and placing the new superstructure and new tracks, and the train runs again. I've always referred to

that period as controlled chaos, because a lot of work happens in a very short period of time.

"You have to create holes to do your work underneath," Hirte continues. "Once we have all the substructure in place, then we go ahead and do a change-out, where we tear out the old bridge and install the new one. That period of time is longer than our normal work days, but for the most part, we get anywhere on average from eight to 24 hours to tear out the existing bridge and replace it with the new. We go from tracks off to tracks back on."

He concedes it sounds like a man putting his belt on so he can take his suspenders off. Sometimes, the company will have to remove some supports of the old bridge to get at the track for the new bridge. "Every once in a while we get into that situation," Hirte concedes. "Usually what we do is wherever we weaken the existing bridge, we temporarily shore it up to allow us to do construction."

HAVE BRIDGE WILL TRAVEL

In 2009, Hamilton Construction built or rehabilitated seven railroad bridges, all within Oregon and Washington. The company usually works in 11 Western states, and much of the rehabilitation work is for wood bridges.

An advantage Hirte cites over Hamilton Construction's competitors is direct management in the field. "There's a project manager, a project engineer and a superintendent assigned full-time to each job," he notes. "So their concentration is on that particular job."

Among the changes Hirte has seen in the industry is the outsourcing of railroad maintenance. "There's a lot more design/build and construction manager/general contractor contracts coming out," he observes. "You put packages together for bidding, and deal with local community and public outreach. All the planning, permitting and construction [that] the railroads used to do with their own staff, we now get to do." *usbr*

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