

Ready to roll with funding



When the Wyoming Department of Transportation knew stimulus funds would be available, the road agency had its I-80 micro surfacing project ready to go, with the contract bid let on April 23, 2009 and completion expected by Sept. 30, 2009

By Greg Udelhofen, editor

Intermountain Slurry Seal (ISS), Inc., the preservation contractor awarded the \$3.8 million bid, was also ready to roll in helping WYDOT take advantage of the available funding to treat the 33-mile-long divided four-lane interstate project between Rock Springs and Wamsutter, WY.

WYDOT wanted to extend the life of that particular section of interstate, address the rutting issues caused by heavy truck traffic that utilize that corridor, and improve the traction/safety for all motorists using the state's only east/west interstate.

The 900,000-square-yard micro surfacing project required a scratch course over both east and westbound travel lanes, followed by a second overlay course, with both applications put down at 25 pounds per square yard with a 13% emulsion. The project used 22,500 tons of Type III aggregate (-3/8 inch) and 950 tons of polymer-modified cationic quick-set (CQS-1HP) emulsified asphalt.

The duration of the project was a 50 production day schedule with approximately 19 ISS employees manning the slurry operation and another five employees from subcontractor Anderson Highway Signs handling traffic control.

Stimulus (American Recovery and Reinvestment Act) requirements for ISS included submitting weekly payrolls online to the federal agency tracking stimulus-funded projects for all hourly and salaried employees working on the project.

ISS was required to put in place a formal apprenticeship program outlining all of the key positions and requirements to achieve full journey status in the required positions

Stimulus requirements for ISS included submitting weekly payrolls online and putting in place a formal apprenticeship program.



of a slurry operation. ISS had two employees enlisted in the program, and successfully trained those employees during the course of the micro surfacing project.

"We didn't have to hire new employees to meet the apprenticeship requirements" explains Bryan Warner, ISS project manager in charge of the I-80 micro surfacing work. "We just had to provide training that would provide additional skills, and that's what we do anyway in developing our workforce."

For ISS, a paver operator usually goes through five to six years of apprenticeship. The document required under the stimulus program simply formalized what ISS was already doing in developing a skilled workforce.

"We were required to start an apprenticeship program and that meant filling out forms documenting the man-hours of training a worker received during the course of the project," Warner says. "For example, we were able to train a laborer on operating a spreader box, monitoring what the slurry mix should look

like so that he can alert the operator if any adjustments are needed in the mix.

"That type of training is what any of our paving crew members would go through if they wanted to become a paver operator," he continues. "We provided 500 hours on project training, filing monthly reports on the number of employees working on the project, along with the man-hours of training provided and the total employment the project was generating. That was the specific information the stimulus program required."

WYDOT was also required to closely monitor the project, under stimulus guidelines, which required ISS to provide more detailed documentation of all standard project requirements and execution of those required specifications.

Intermountain approach

For Warner, "it was straightforward" as far as how his crew executed the work required.

"The project was just over 33 miles long and required two applications on both travel lanes in both

directions," Warner says. "We had to first apply a scratch course to take care of the rutting issues and then apply the final surface overlay."

According to Warner, there was some maintenance work performed on this particular section of the interstate in 2003, but it was time for additional maintenance to keep the roadway in good condition.

"Our major challenge on this particular project was dealing with the high-speed, high truck traffic volume during the project," Warner states. "We could only close off six miles of one travel lane at any one time to prevent major backups on the road, and we were restricted to implementing traffic control measures only during daylight hours."

Because rutting issues were not severe (1/2 inch or deeper), ISS was able to use a 10-foot-wide spreader box to apply the micro surfacing scratch course, which filled in both rut paths of the travel lane. ISS used a Bergkamp MP130 and MP142 self-propelled, continuous load slurry pavers to complete the project.

WYDOT requires a continuous

load paver manufactured exclusively for micro surfacing applications in order to control the mixing and distribution of accurate proportions of aggregate, emulsified asphalt, cement, additives and water to a multi-blade, twin-shafted mixer, and then discharge a continuous flow of the mixer to the spreader box.

"If the ruts on this project were 1/2 inch or deeper, WYDOT would have required a 5-foot or 6-foot-wide rut box to be used," Warner notes.

WYDOT perspective

According Leslie Ranta, WYDOT resident engineer, the I-80 micro surfacing project was an ideal stimulus project. It was designed in the field office during the winter of 2009 once it became apparent that stimulus funding would be available.

After winning the bid on April 23, 2009, ISS started working on the project as soon as weather permitted, which was June 19, and completed work August 14, over a month earlier than the contract requirement of September 30.

"We do include existing rut depth information with our plans for a road section we are micro surfacing, and in this case it includes a rut depth measurement every 200 feet in each

wheel path in the driving lane for the eastbound lane and westbound lane," Ranta explains. "This information is collected routinely on our interstate and other major highways.

WYDOT micro surfacing specs for the I-80 project required the contractor to place a full width strike-off pass (scratch course to take care of the wheel ruts) and a full width fin-

"We always look at ... preventive maintenance as the most cost-effective way to keep our road network in good shape." — Leslie Ranta, WYDOT engineer

ish pass of micro surfacing material. The depth of the finish pass had to be a minimum 3/8-inch thick coating using polish-resistant aggregate for wheel traction.

"It's been awhile since we've performed some maintenance on this particular section of I-80," explain Ranta, a 28-year WYDOT veteran.

"We always look at maintenance or preventive maintenance as the most cost-effective way to keep our road network in good shape and extend the life of an original road structure.

"On this particular project, we wanted to correct some of the rutting issues and improve the overall surface friction as a safety enhancement for motorists," he continues. "Micro surfacing allows us to seal and renew a good pavement structure with the available funds we have to maintain the state's road system.

On this particular section of I-80, WYDOT daily traffic counts from 2007 estimated volume at 8,800 vehicles, with 50% of those vehicles being heavy trucks.

"The road was not a candidate for 'mill and fill,' based on the condition of the pavement structure and the funding we had available to make improvements," Ranta explains. "With the stimulus dollars we qualified to receive and the fact that we could quickly move this project from plan to action, micro surfacing provided the best opportunity to improve the road and extend its service life another 5 to 10 years before we'll have to take another look at additional preservation or rehabilitation needs." ■

