



[« Back](#) | [Print](#)

Rubblizing And Repaving Revitalize Hwy. 41

Need to keep road open during reconstruction adds challenges.

Story and Photos by Mike Larson, editor – Western Builder, 6/2/2008

Northeast Asphalt, Inc. (NEA) is the general contractor for a \$26-million reconstruction that is revitalizing 6.2 miles of U.S. Hwy. 41 in Fond du Lac, Wis.

A four-lane, divided interstate highway, U.S. 41 is a major traffic route carrying both passenger vehicles and heavy trucks from Milwaukee to the cities of the fast-growing Fox River Valley, then northward to Green Bay and onward to Michigan's Upper Peninsula.

It is owned by the Wisconsin Department of Transportation (WisDOT). R.A. Smith National, Brookfield, is providing engineering and management services as WisDOT's on-site representative.

The current reconstruction, started in early April and scheduled for completion in November, is rebuilding the third stretch of Hwy. 41 in Fond du Lac County to be upgraded in the last three years. Eight-mile sections south and north of the current site were completed in 2006 and 2007, respectively.

NEA also reconstructed those two previously upgraded stretches.

Completion of this year's reconstruction will essentially finish the upgrading of all 22 miles of Hwy. 41 in Fond du Lac County, from the Dodge County line in the south to the Winnebago County line in the north.

After Long Service, Upgrade Needed

Built of concrete in the 1960s and last paved over with asphalt in 1988, this stretch of U.S. 41 is now getting a much-needed overhaul.

The Wisconsin Department of Transportation (WisDOT) specified that the reconstruction be done by rubblizing the concrete, then paving over it with asphalt.

Chris Winiacki, NEA's manager for the south region, says, "Rubblizing and paving with asphalt is the quickest and most cost-effective way to do this job. Rubblizing enables us to crush and compact the existing concrete into a good base, then pave the new asphalt highway right over it. The types of asphalt and compaction specifications for the job will enable the new pavement to provide a smooth, quiet-riding, durable surface that will last for decades."

Quantities Indicate Size Of Job

The reconstruction includes milling off 80,000 tons of existing overlaid asphalt, rubblizing 160,000 square yards of concrete pavement, placing 152,000 tons of new hot-mix asphalt, performing 75,000 cubic yards of common excavation, laying 13,000 feet of new drainage pipe, placing 145,000 square yards of topsoil, building five bridges or overpasses, and tying in of connections to ramps at interchanges.

All of the work, except one bridge, will be completed by early November. The remaining bridge is scheduled for completion by May 2009.

In addition to repaving the four driving lanes, the project also entails widening the outside shoulders by 2 feet each (from 8 feet to 10 feet) and paving them so they can be used as temporary driving lanes during construction.

It also includes doubling the width of each inside shoulder from 3 feet to 6 feet, and paving both.

The median will be filled, regraded, landscaped, and equipped with multi-cable barriers to prevent out-of-control vehicles from crossing the median.

Required Full-Flow Daytime Traffic Adds Challenges

Adding to the challenge of this job was the Federal Highway Administration's requirement that – to maximize safety and traffic flow – four driving lanes be kept open during the daytime from Memorial Day through Labor Day, when summer tourist traffic is heaviest.

Since the road has only four driving lanes, contractors working on the road for those three months must work only at night – and must also remove their equipment from the job site before a specified time early each morning.

As an additional challenge, special events that draw extra-heavy traffic through this stretch of highway, such as the Country USA music festival, Experimental Aircraft Association convention, and Green Bay Packers pre-season games, will eliminate working at all on some days.

Altogether, the contractors working on the job will be unable to work 33 weekdays during the summer months as a result of special-event traffic volumes.

Still, NEA's area manager Chris Winiacki, P.E., isn't complaining. "It's just one of those requirements that came with the job, which we are thrilled to have the opportunity to work on."

"In fact," he says, "the requirement to keep both driving lanes open all summer made asphalt the only way to do this job. Asphalt sets up quickly, so traffic can be on it in just a few hours. Concrete requires days or weeks to form, pour and cure before you can drive on it."

Team Lays Good Foundation Before Summer

To get as much basic work done in April and May, while they could still work in daylight and close one lane of traffic in each direction, NEA worked 24 hours per day, five days a week to

mill off the existing 4- to 6-inch asphalt overlay pavement, rubblize the 9-inch underlying concrete slabs, and lay the first lift of asphalt for the new roadway.

NEA also widened and paved as much of the outside shoulders as possible so they could be used as temporary driving lanes (they will remain widened and paved as part of the completed project).

At the same time, Mashuda Contractors completed as much excavation and laid as much drain pipe as possible during the period.

Synchronized Paving Process Keeps Job Moving

NEA's well-orchestrated paving process moves along under the conduction of Project Manager Mark Zuber, a veteran road man who started out running a milling crew more than 20 years ago.

Says Zuber, "The process is straightforward. You mill the existing asphalt, rubblize the concrete underneath it, compact the rubble to form a base, pave the first lift of asphalt, compact it, and test to be sure it meets the density specs. Later you lay the second and third lifts of asphalt, compacting each as it's laid."

The trick, says Zuber, is to keep all of the operations in synch, so the mills and rubblizers don't get too far ahead of the base-compaction rollers, and the rollers don't get too far ahead of the pavers. Everything needs to be coordinated to produce an optimum paving job, he says.

Many things can throw off the team's timing, so each group is continually adjusting to stay in synch. One of the major challenges during the early phases of this job has been maintaining steady streams of dump trucks to haul away the milled asphalt and bring fresh new asphalt to the pavers.

Says Zuber, "There are two challenges with the trucks," he says. "One is getting enough to handle our 24-hour operation right now. The other is getting the trucks to the work site through slow, congested traffic."

"The round trip to the asphalt plant and back usually takes about an hour and a half," he says. "When trucks get tied up in traffic, it can take much longer, so we have to adjust to keep the operation running smoothly."

Layers Lead To Long Life

NEA is paving the asphalt for this job in three lifts, totaling 6-3/4 inches to 7-1/2 inches thick. Each lower layer is superpave E-30, and the upper layer is SMA, so it will stand up under 25 to 50 years of heavy traffic.

The precisely controlled compaction process for each layer starts with a vibratory, steel-drum roller, followed by a rubber-tired roller that kneads the asphalt into position, and is completed by a cold drum roller that provides a smooth surface and the final bit of compaction.

The recipe, or mix specification, for the asphalt also plays a role in the pavement's durability and other characteristics. NEA operates its own laboratory to formulate its asphalt mixes. Samples of the proposed mix are tested and approved by WisDOT before being put into use on the project.

SMA Top Layer Improves Ride, Life

The top layer is stone-matrix asphalt, or SMA, a special mix in which special aggregate provides more stone-to-stone contact for maximum durability.

According to NEA's area manager, Chris Winiacki, SMA produces a surface that's particularly durable and smooth riding. It also, he says, increases safety by virtually eliminating spray from vehicle tires and eliminating standing water to improve traction in wet weather.

Says, Winiacki, "This job is enabling NEA to demonstrate how its extensive capabilities can produce high-quality results even in challenging circumstances. We're excited about completing this job and providing Wisconsin's driving public with a smooth, quiet and durable roadway that will last for decades to come."

Environmentally Friendly Process

The reconstruction is proving to be friendly to the environment. All of the milled-out asphalt is being taken to NEA's production site, where it will be incorporated into new asphalt for several new projects.

The rubblized concrete will sit right where it is, forming an excellent layer of base for the new asphalt pavement.

The project includes installing 13,000 feet of storm drain, as well as filling, re-sloping, and landscaping the median. Much of the fill is coming from other excavation on the project site.

The Project Team

Subcontractors working for NEA on the project include: Lunda Construction, Black River Falls – bridges; Mashuda Contractors, Princeton – excavation and pipe laying; Michels Corp., Brownsville – aggregate supply, shoulder grading and asphalt aggregates; Twin Lakes Transit, Eden – trucking; Highway Landscapers, Little Chute – median landscaping and cable-barrier installation; Mega Rentals, Madison – traffic control; and Bodart Electric Service, Green Bay – electrical work for signals.

[« Back | Print](#)

© 2008, Reed Business Information, a division of Reed Elsevier Inc. All Rights Reserved.

Advertisement