Hello again!

Winter is finally coming to an end as it always does, and contractors are getting ready to begin work.

Concrete prices are trending flat or slightly lower. This is an excellent year to pave with durable, environmentally friendly Portland cement concrete. Prices may never be as low as they will be this year.

Asphalt prices are starting to trend higher again, and with the price of a barrel of oil hovering above $100 asphalt cement prices are beginning to climb.

The Producer Price Index, shown later in the newsletter, tends to show these trends.

For this newsletter Moe Jamshidi, Materials & Research Engineer for the Nebraska Department of Roads, wrote an article about the reconstruction of I-80 West of Lincoln. A big thank you to Moe for taking the time to prepare this information for us.

Check the Odds & Ends section for upcoming events.

There is a new website worth visiting: www.BetterNebraskaAssociation.org just came on-line. Check it out. The website seeks to build support for better roads in Nebraska.

Senator Deb Fischer’s LB 84 passed the first vote in the legislature with a vote of 32 yes, 8 no, and 8 not present or voting. There are two more readings of the bill, then to the Governor’s desk. Senator Fischer plans to offer amendments to LB 84 to eliminate the bonding portion, plus other changes. This would result in about $125 million annually to the road infrastructure building in Nebraska. We will keep you informed of what is happening with this very important road funding bill.

Thanks, and enjoy the newsletter! Bill Cook, P.E.

NCPA Holds 32nd Annual Concrete Paving Workshop

The Nebraska Concrete Paving Association (NCPA) held its 32nd Concrete Paving Workshop at the Cornhusker Marriott in downtown Lincoln on January 26-27, 2011.

Twenty-two speakers informed and educated those in attendance about new and old concrete paving topics.

A special thank you to our sponsors, exhibitors, Rochelle Hitz from the Nebraska and Aggregate Association, and Susie Houchen from the Lincoln Convention and Visitors Bureau.

Thanks also to Joel Sedlacek who took most of the photos during the workshop. And, we must thank the Department of Roads and Jay Bailey, the Department’s photographer, for taking pictures of the Paving Award winners.

Highlights, photos of speakers and award-winners appear beginning on page 8 of this newsletter.
Five-inch Thick, Unbonded PCC Overlay on US 30

between Paxton and Sutherland
Here is the bid tab for the letting on May 19, 2010

Thanks to Nebraska Department of Roads employees Toby Thomsen, District 6 Engineer Gary Thayer, and District Construction Engineer Noel Salac for the cost data.

Per the plans, the overlay was placed one lane at a time, while maintaining local traffic on the open lane.

Notice the rolling stringline. Except for the initial start up, this rolling stringline was used along centerline, allowing greater clearance. The contractor earned 104% pay for smoothness incentive.
Final cost was $4.508 Million for 11 miles of PCC Overlay and about one mile of HMA overlay in Paxton. The project included a nominal three-inch HMA overlay of the existing shoulders.

That calculates out to $375,570 per mile for a five-inch PCC Overlay with an expected life of 25 years. The cost of the concrete and its placement was is $245,778.49 per mile.

Our “unbounded” overlay really bonded pretty well to the underlying asphalt. In this case “Unbonded” really means we don’t consider the extra strength added to the pavement structure by the bonding. This gives us a more conservative design.

The Finished Product
Quiet Concrete, a First in Minnesota

By Conrad deFiebre

Among the many negative economic externalities of driving — costs such as air pollution, crashes and “free” parking that are not directly borne by users — seldom acknowledged is noise. As John Denver sang, “the whining of his wheels just makes it colder.” If you live next to a busy freeway, it can be hard to even carry on a conversation.

What to do? In many places, huge noise barriers separate homes and traffic. But when the Minnesota Department of Transportation launched its “Megaproject” to refurbish 10 miles of Interstate Hwy. 35 through Duluth, walls weren’t an option. They would have blocked treasured views of Lake Superior. The solution was a new pattern of grooves in concrete pavement that reduces noise up to 80 percent while also improving ride smoothness and traction against skidding.

The new process, developed by Purdue University, the concrete industry, and something called the International Grooving and Grinding Association (no relation to funky dancing) is called Next Generation Concrete Surface. Early testing was done at MnDOT’s St. Michael pavement research strip along I-94. A first in Minnesota, it’s already won praise from long-suffering neighbors of the freeway.

“Absolutely we can tell the difference,” the general manager of the Edgewater Resort and Water Park told the Duluth News Tribune this week. While the racket from I-35 was the No. 1 complaint of hotel guests for years, there hasn’t been a single one since the Next Generation surface opened in early September.

The new process, involving diamond grinding and longitudinal grooving on three noise-critical miles of I-35, added about 1 percent to the overall project cost of $66.8 million. But it is expected to cut maintenance costs, reduce accidents and extend the life of repaired 40-year-old concrete by 15 years and a 20-year old stretch by another 20 years.

The concrete paving industry has always touted its durability to claim a cost-effectiveness edge over cheaper, softer asphalt. Asphalt folks responded that their product was “the Quiet Alternative.”

Now they might have more competition in that regard from their concrete rivals, whose marketing slogan is “Think Harder.”
Nebraska 91 Needs Help!

Here are some pictures of Nebraska Highway 91 between US 30 and US 275 west of Blair. This is an example of why we need more funding for road construction in Nebraska.

In contrast: Here is a picture of the concrete section of Nebraska 91 just east of Snyder.
The steel PPI increased in February 4.7% from last month and the asphalt PPI increased 0.9%. The lumber PPI decreased (0.4%) and the concrete PPI decreased (0.3%).

The steel PPI has increased 13.3% from last year. The asphalt PPI has increased 2.3%, and the lumber PPI also increased from last year 1.7%. The concrete PPI decreased (0.5%).

PCA Market Intelligence provides this information to aid in the promotion of concrete and cement-based products.
I-80 Reconstruction West of Lincoln

By Moe Jamshidi, Materials & Research Engineer, NDOR

The Interstate system was originally constructed in Nebraska between 1957 and 1974. With a pavement design life of 50 years, the Interstate has held up against higher than expected traffic growth and loadings, as well as the harsh Nebraska weather. But, having celebrated the Interstate’s 50th Anniversary in 2007, the question remains: How long will the pavement continue to last?

As the reconstruction of I-80 between Omaha and Lincoln nears its completion, the Nebraska Department of Roads (NDOR) is developing a long term plan to maintain I-80 west of Lincoln. When a concrete pavement deteriorates, there are multiple pavement rehabilitation strategies that can help extend its life. These include: concrete patching and repairs, crack sealing, grinding, and asphalt overlays. Although these strategies can help extend the life of a pavement, they are not perpetual solutions. A new asphalt overlay on I-80 typically has an expected life of 12 years. But the life of each successive overlay is reduced because the pavement underneath continues to deteriorate. At some point it is more economical to reconstruct the roadway than to continue to rehabilitate it.

The NDOR’s challenge is to identify, and program projects to replace the pavement of sections of I-80 that will reach the end of their useful life, while continuing to resurface other sections. To develop this long term plan, NDOR must consider the following:

1) Design Life: One of the key elements for designing a pavement and predicting its remaining life is calculating the amount of truck traffic that the roadway will be expected to carry. Many segments of I-80 have already experienced more truck loading than originally designed for.

2) Road Condition: Design life calculations can tell us a lot about the remaining life of a pavement, but it assumes a pavement only accumulates damages due to load related stresses. Yet there are other factors that degrade pavement in addition to loading. Concrete Pavements with poor subgrade drainage and low air voids can deteriorate faster during the freeze thaw cycles. Sections of I-80 that were rebuilt during the 1980s are also deteriorating faster due to Alkali Silica Reactivity (ASR). Although pavements today are being engineered to prevent such problems, we are facing these issues on much of the existing Interstate System. Each year, the Pavement Management Team surveys the roads and rates their condition. NDOR engineers analyze the pavement management condition ratings to plan appropriate maintenance strategies.

3) Capacity: If the original pavement on I-80 is to be replaced, standards require that NDOR build additional lanes when warranted. Preliminary studies show that I-80 from Lincoln to possibly as far as Minden may need to be designed for one additional lane on each direction sometime in the next twenty to thirty years.
32nd Annual Concrete Paving Workshop

Speakers

Monty Fredrickson
NDOR Director & Chief Engineer

Joe Werning
Nebraska Division Administrator, FHWA

Anna Lannin
Director of Planning & Programming
Nebraska Dept. of Aeronautics

Khalil Jabber
Program Management Engineer, NDOR

Dave Zwicke
Regional Economist
Portland Cement Association

Mary Johnson
Nebraska
on the Move

Wally Heyen
PCC Engineer,
NDOR

Steve Wobken
Technical Services Rep.
Ash Grove Cement Co.

Randy Miller
Vice President
Iowa Erosion Control

Jerome Montgomery
Executive Director
NC&AA

Rich Palladino
President, Cellular
Concrete Solutions

Shane Greer
Minnick
Manufacturing

Not pictured:
Jon Trapp with Dakota Fluid Power Systems
The Nebraska transportation community was recognized as a recipient of the 2010 FHWA Administrator’s Award for Excellence in Teamwork on November 5, 2010. This national award recognizes the outstanding teamwork displayed in Nebraska, including both public and private entities, in successfully delivering over $258 million in American Recovery and Reinvestment Act (aka Recovery Act or Stimulus) funds provided for highway and bridge investment.

Facing some substantial program and process changes in the regular Federal-aid highway program, the Nebraska’s entire transportation community proved that effective teamwork is an important ingredient in the timely delivery of Federal-aid projects.
The Columbus Viaduct, NH-30-5(125), District 3

Prime Contractor was Cramer Associates, and the paving subcontractor was Dobson Brothers Construction Company. E & A Consulting Group was the designer, and NDOR District 3 administered the project.


The Thedford Viaduct, NH-STPN-TMT-83-3(106)

The prime contractor was Ames Construction and the paving contractor was Upper Plains Contracting. The project was designed by the NDOR, and administered by NDOR’s District 6 Office.

L to R: Deb Larson, Bruce Welte, Toby Thomsen, and Drew Wilson

Pierce County PCC Overlay of North 1st street

The prime contractor was A&R Construction. The project was designed and administered by JEO Consulting Group.

L to R: Jason Aschoff, Brian McDonald, Jim Maas

South Omaha Bridge
13th Street & Missouri Ave., STPD-275-7(184)

Paving contractor was Hawkins Construction. Designer was TranSystems and the project was administered by NDOR’s District 2 Office.

Menard’s Parking Lot in Fremont, Nebraska

Paving Contractor was Stockness Construction, Inc., for this project owned by Menard’s, Inc. Designer was Advanced Engineering Concepts. Arps Ready Mix furnished the concrete for this project.

Pictured: Max Mumford

Superior Airport Widening

Paving contractor was Paulsen, Inc. The project owner is Superior Airport Authority. The project was designed and administered by Kirkham Michael. Coordination was provided by the Nebraska Department of Aeronautics.

4) **Funding:** Given that maintaining existing highways is NDOR’s top priority, and Interstate 80 is considered to be state’s most important highway, the Department needs to allocate an appropriate level of funding for the Interstate 80 projects. The Department’s resources are, however, limited, so it is very important to develop and execute a plan that is financially reasonable. Most of the original pavement on I-80 west of Lincoln will be over 40 years old in 2011, and these older sections should be replaced in the next 20 years. Unless the NDOR is funded at a higher level than is currently projected, these sections may not be replaced when conditions warrant. The only other solution is to sacrifice preservation of non-interstate roadways in order to keep the interstate in optimum condition. Even when it is not the most cost effective strategy in the long run, in some cases the Department may need to overlay a section of the interstate instead of replacing it.

As the Department develops a comprehensive pavement replacement plan for I-80 west of Lincoln, it is important to note that some sections have already been replaced, and others are currently programmed for replacement in the near future. The west bound lanes of the section from Odessa to Kearney in District 4 was replaced back in 2009 while the Roscoe to Paxton section in District 6 will be under construction in 2011. The Pavements between Potter to Brownson, Sunol to Chappell, Brownson to South Sidney, and Brule to Ogallala are programmed to be replaced in the next few years.

The Department will begin planning and programming additional projects in the near future so that the engineers can begin to design and prepare plans for construction. The Interstate is an economic life line for the state of Nebraska, and the NDOR is committed to maintain it, so that it can continue to function at a very high level.
Together, we can build roads for Nebraska's future . . .

Contact Your Senator to Voice Your Concerns About Road Funding Issues

Roads Construction Funding Talking Points

- Roads funding in Nebraska is not meeting state's needs.
- In 2011 Nebraska can barely fund the preservation and maintenance of our state highway system valued at $7 billion.
- Our state and our economy need a roads funding package to be passed this year.

Please send Senator comments to:
Mary Johnson
Mueller Robak LLC
johnson@MuellerRobak.com
(402) 434-3399

2011 Nebraska Legislature (alphabetical)
R - Revenue Committee Member
T - Transportation Committee Member
A - Appropriations Committee Member

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Odds & Ends & Important websites!

www.BetterNebraskaAssociation.org
www.nebrconc.org www.nebrconcagg.com

- The NCPA 2012 Concrete Paving Workshop will be January 24-25, 2012 at the Cornhusker Mariott in Lincoln, Nebraska
- The NCPA Summer Golf Outing will be June 20, 2011 at Quarry Oaks Golf Course with an 11:00 tee time
- The APWA Golf outing will be May 6th at Tregaron Golf Club
- The ACI Golf outing will be May 20 at the Beatrice Golf Club in Beatrice, Nebraska
- AGC Golf Outing is June 6th at Lockland Country Club in Hastings.

If you or your staff have an interest in learning about Concrete Overlays or Concrete Maturity Testing for Early Opening, please contact Bill Cook by email at bcook@nebrconc.org or call 402.499.7105 (Mobile Phone)
Concrete for Life
NEWS

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