

# Concrete for Life NEWS

**NCPA**  
NEBRASKA CONCRETE  
PAVING ASSOCIATION

October 2008

**William E.  
"Bill" Cook**  
Pavement  
Engineer

It's amazing how time flies. Since our last newsletter, I've travelled

from Omaha to Sidney to Beatrice to Ainsworth to Norfolk promoting concrete pavements, runways and overlays.

Almost 40 agencies and consultants have seen the PCC Overlays Presentation. And I have about another 40 to go! Engineers and officials are becoming more interested in the concrete option because of competitive cost and longer life.

Coming in October along with the Nebraska Chapter of the Associated General Contractors we will host a short meeting discussing ways to reduce the cost of concrete and concrete paving without reducing quality. Todd Latorella from the Missouri-Kansas Chapter of the ACPA has a very good presentation on this topic. And it never hurts to see what other states and counties and cities are doing to economize the use of concrete, and still maintain a quality product.

Please enjoy this second **Concrete for Life News** brochure, and we'll be seeing you soon!



## First Bonded PCC Overlay of HMA Parking Lot in Nebraska

We may have a first in Nebraska! The Grand Island Northwest High School parking is the first bonded PCC overlay of a HMA parking lot, at least we think so. The parking lot also has a section of unbonded PCC over HMA, but that is the second one in Nebraska. Dave Wacker, Hastings City Engineer advises the City of Hastings placed an unbonded PCC Overlay over HMA about 15 years ago.

*This lot was bid with a concrete overlay as an option, and it won!*

We want to congratulate Ryan Kvan and Terry Brown from Olsson Associates for the design and initiative to consider the concrete overlay option for design and construction. Also, thanks to Dave Thibault and Dirk Eggers of contractor Stephens and Smith of Lincoln and Omaha for placing a great looking parking lot. The concrete supplier, Consolidated Concrete of Grand Island, furnished the concrete expeditiously and in compliance for this project.

And a special thanks to the Grand Island School Board for having the foresight to select long-lasting, sustainable concrete for their parking lot.



Placing a PCC Overlay means less susceptibility to rain delays. Once the rain stops, just dry the surface, and keep on paving. No mud to worry about! For the tight schedule this project needed, using the concrete overlay meant getting the job done on time and on budget.



For More PCC Overlay  
Photos . . . see page 2

## PCC Overlay in Grand Island . . . continued

Here are some photos of the parking lot, courtesy of Jereme Montgomery of the Nebraska Concrete and Aggregates Association:



Looking south



Looking northwest at Northwest High School while pouring the concrete overlay.

# Wobken Promoted at Ash Grove

## Jensen Joins Team, Johnson to Retire

May 30, 2008--Ernie Peterson, National Sales Manager for Ash Grove Cement Company announced that, effective June 1, Steve Wobken will be promoted to Technical Services Representative for the Northern Region of the Midwest Sales Division. Steve will maintain sales responsibilities in eastern Nebraska and will cover the states of Nebraska, Iowa, and a small section of South Dakota.

Steve Johnson will be retiring at the end of 2008 as Senior Sales Representative. Steve has been with Ash Grove Cement Company for 6 1/2 years and was previously with Gerhold Concrete, an Ash Grove subsidiary, for 22 years.



Steve Wobken

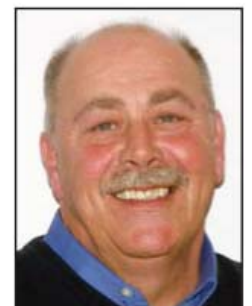
He will continue to be a recognized leader in both sales and technical service as he transitions to retirement.



Tyler Jensen

Tyler Jensen will be joining the Northern Region sales team as a Sales Representative. Tyler is a recent graduate of the University of Nebraska, where he majored in Construction Management. He served as an Ash Grove intern last summer

in the Northern Region and was instrumental in developing the Nebraska parking lot survey that is widely used by our customers throughout the state. He will eventually move to the northeast part of Nebraska and will assume the sales responsibilities from Steve Johnson.



Steve Johnson



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# Old Age can be good!

Here are some pictures of an old pavement in Fremont, Nebraska. This 80+ years old pavement still serves as a residential street. This stretch of Old Highway 8 can be found in Fremont north of Morningside in the south central part of town. Contact me if you want more detailed directions.

Notice that the concrete mix appears to be entirely a sandy gravel, or maybe a gravelly sand mix. No sawn or formed joints, except for day's work joints. The random transverse and longitudinal cracks hurt the looks, but for this low speed residential street, detract little from its functionality.

I hope I look that good at 80+ years old!

Thanks to Clark Bochult, Fremont City Engineer for pointing out the existence of this concrete pavement.



*And here is a section of Nebraska 50 at milepost 41, about seven miles north of Tecumseh*



*This stretch of 50+ years old pavement looks great, and is still serving Nebraska residents admirably. How many other kinds of surfaces see 50 years before needing major repair?*



# 2008 NCPA Golf Outing



Team winners of the 2008 NCPA Golf Outing at Quarry Oaks were (L to R):

*Sam Porter, Aaron Bell, Kirk Havranek and Sheila Radenslaben.*

Sam and Sheila work for the Nebraska AGC, while Aaron works at Security 1st Bank. Kirk Havranek is with Lincoln Ready Mix.



*Doug...It's probably time to give up on trying to find that ball in the river!*

## Price Turnaround

Remember in the past when inch-for-inch asphalt was always cheaper than Portland cement concrete? Well, those days are gone.

Look at the Producer price indices for Competitive Building Materials

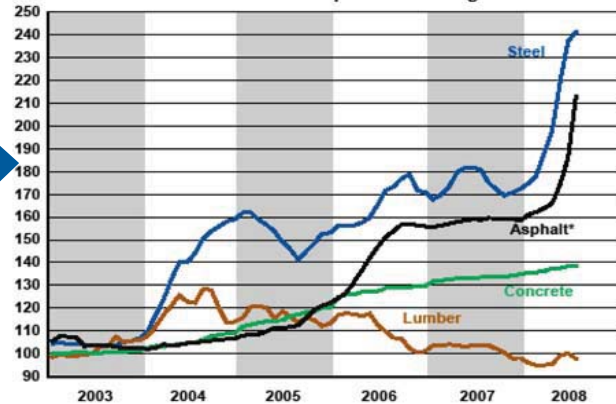
Note the steep rise in Asphalt.

Earlier this summer the Nebraska Department of Roads decided to defer letting any more asphalt projects for this year because of both price and availability of the desired grade of asphalt.

Today there is very little difference in price inch-for-inch, and with concrete you get longer life with lower maintenance costs. Depending on the grade of asphalt binder and location in the Nebraska, and the thickness being placed, agencies may find a lower first cost with a PCC overlay than an HMA overlay. And for thicker pavements, concrete will definitely cost less.

### PCA Market Research

Producer Price Indices – Competitive Building Materials



	Annual			Monthly						
	2005	2006	2007	Feb-08	Mar-08	Apr-08(p)	May-08(p)	Jun-08(p)	Jul-08(p)	
Steel Mill Products	152.3	166.1	174.3	178.0	187.8	197.9	219.2	237.0	241.1	
% Change Year Ago	8.5%	9.1%	4.0%	4.6%	6.4%	10.2%	20.8%	30.4%	33.4%	
% Change Month Ago	-2.5%	-5.1%	-7.5%	1.0%	5.5%	5.4%	10.7%	8.1%	1.7%	
Lumber	116.5	110.6	102.3	34.9	35.0	35.4	39.3	100.2	97.9	
% Change Year Ago	-2.5%	-5.1%	-7.5%	-8.4%	-8.7%	-8.0%	-3.0%	-3.0%	-5.8%	
% Change Month Ago				-1.1%	0.1%	0.4%	4.0%	0.0%	-2.3%	
Concrete Products	116.1	127.8	133.2	135.8	136.2	137.6	137.5	138.4	138.5	
% Change Year Ago	9.0%	10.1%	4.2%	2.9%	2.0%	3.4%	3.2%	3.8%	3.8%	
% Change Month Ago				0.1%	0.3%	1.0%	0.0%	0.7%	0.1%	
Asphalt*	113.4	144.9	158.2	162.1	163.3	165.3	174.3	186.0	212.9	
% Change Year Ago	8.3%	27.8%	9.2%	3.7%	4.4%	5.1%	10.0%	17.0%	34.1%	
% Change Month Ago				0.7%	1.1%	1.3%	5.1%	6.7%	14.5%	

(p) = Preliminary data  
 \* BLS series "Paving Asphalt" through 2003 (discontinued) then "Asphalt Paving Mixtures and Block"  
 Base Year: 2002 = 100  
 Source: Bureau of Labor Statistics. Data rebased to 2002 by PCA Market Research  
 Steel prices increased for the ninth consecutive month, increasing by 1.7% from June to July. Asphalt prices had a double digit increase, 14.5% from the previous month. Lumber prices decreased by 2.3% from June to July. Concrete prices increased minimally from the previous month by 0.1%.

Steel prices have increased 33.4% within the last year. Asphalt prices have grown 34.1% and concrete prices grew by 3.8%. Over the last year lumber prices have declined by 5.8%.


PCA Market Research provides this information to aid in the promotion of concrete and cement-based products.

Contact: Craig Schulz, PCA Director, Market Research, [cschulz@cement.org](mailto:cschulz@cement.org)

August 19, 2008

Price turnaround... continued on page 7

Here is a list of full-depth paving projects in the Fiscal year 2009 NDOR Construction Program:

<p style="text-align: center;"><b>Nebraska Department of Roads</b>  <b>Full Depth PCC Paving Projects for Fiscal Year 2009</b>  <i>Estimated Concrete Pavement Quantities for the July 1, 2008 through June 30, 2009 Time Period*</i></p>							
							
County	Item Description	Control Number	Project Number	Quantity	Unit	Description	
<b>DISTRICT 1</b>	Otoe	CONC PVMT, PR-3500	12738	STPD-50-2(128)	39.54	CY	Syracuse North on Ne 50: Structures, resurfacing, surf. Shoulders
	Lancaster	8" CONC PVMT, 47B-3500	12762	BR-3270(4)	1,740.00	SY	On Sec. Road
	Jefferson	9" DOWELED CONC PVMT, 47B-3500	12813	STPD-15-1(113)	6,905.00	SY	Fairbury South Bridges on Ne 15
	Lancaster	CONC PVMT, PR-3500	12891	RD-2-6(1029)	8.44	CY	Unadilla East & West: Joint Seal
	Lancaster	10" CONC PVMT, 47B-3500	12893	RD-77-2(1060)	350.00	SY	Lincoln So. On US 77: Resurfacing
		10" DOWELED CONC PVMT, 47B-3500	12893	RD-77-2(1060)	2,830.00	SY	10" DOWELED CONC PVMT, 47B-3500
	Lancaster	9" DOWELED CONC PVMT, 47B-3500	12895	RD-2-6(1030)	8,980.00	SY	On Ne 2 from US 77 to 9th Street in Lincoln: Mill, Resurface
	Saunders	10" CONC PVMT, 47B-3500	11801E	S-77-2(1067)	461.50	SY	At Junction of US 77 and Ne 109: Grading, Culverts, & PCC Paving
		10" DOWELED CONC PVMT, 47B-3500	11801E	S-77-2(1067)	19,866.80	SY	
	Cass	14" CONC PVMT, 47B-3500	12450A	NH-80-9(832)	167,951.00	SY	I-80 from Greenwood to Mahoney State Park: Six-lane Reconstruction
	14" DOWELED CONC PVMT, 47B-3500	12450A	NH-80-9(832)	255,514.00	SY	14" DOWELED CONC PVMT, 47B-3500	
<b>DISTRICT 2</b>	Sarpy	CONC PVMT, PR-3500	22085	RD-370-7(1022)	22.97	CY	On Ne 370 from Ne 50 to Bellevue: Grinding, Joint Sealing, Drains
	Douglas	13" CONC PVMT, 47B-3500	22132	NH-80-9(889)	42,520.00	SY	On I-80 from the Missouri River westward to about the Kennedy
		13" DOWELED CONC PVMT, 47B-3500	22132	NH-80-9(889)	100,673.00	SY	Freeway. Not shown in FY 2009 Six-year program
	Sarpy	CONC PVMT, PR-3500	22261	RD-75-2(1060)	15.09	CY	On US 75 from MP 79.81 5.1 miles to Omaha: Grinding, Joint Sealing
	Saunders	8" CONC PVMT, 47B-3500	22265	NH-BR-77-3(128)	782.00	SY	On US 77: Fremont South Bridge
		10" CONC PVMT, 47B-3500	22265	NH-BR-77-3(128)	1,364.00	SY	10" CONC PVMT, 47B-3500
		10" DOWELED CONC PVMT, 47B-3500	22265	NH-BR-77-3(128)	20,430.00	SY	10" DOWELED CONC PVMT, 47B-3500
		10" DOWELED CONC PVMT, 47B-3500	22342	STR-75-2(1064)	102.00	SY	10" DOWELED CONC PVMT, 47B-3500
	Douglas	9" CONC PVMT, 47B-3500	21574F	S-275-7(1042)	3,718.00	SY	On US 275 in Omaha at the So. Omaha Veterans Memorial Bridge
		10" DOWELED CONC PVMT, 47B-3500	21574F	S-275-7(1042)	22,432.00	SY	10" DOWELED CONC PVMT, 47B-3500
<b>DISTRICT 3</b>	Dakota	6" CONC PVMT, 47B-3500	31380	STPD-35-4(118)	296.00	SY	On Ne 35: Hubbard North & South: Grading, Culv., Bridge
		8" DOWELED CONC PAVE, CLASS 47B-3500	31380	STPD-35-4(118)	440.00	SY	8" DOWELED CONC PAVE, CLASS 47B-3500
	Platte	10" CONC PVMT, 47B-3500	31382	NH-30-5(125)	4,212.00	SY	On US 30 at MP 378.27: Columbus Viaduct
		10" DOWELED CONC PVMT, 47B-3500	31382	NH-30-5(125)	6,281.00	SY	10" DOWELED CONC PVMT, 47B-3500
	Madison	6" CONC PVMT, 47B-3500	31442	STPD-35-3(105)	1,661.00	SY	On Ne 35: Norfolk Southeast: 4-lane Grading, Culv., Surf., S. Shldr.
		8" CONC PVMT, 47B-3500	31442	STPD-35-3(105)	7,203.00	SY	8" CONC PVMT, 47B-3500

Continued on Next Page →



County		Item Description	Control Number	Project Number	Quantity	Unit	Description
<b>DISTRICT 3</b>		8" CONC PVMT, 47B-3500	31442	STPD-35-3(105)	2,204.00	SY	8" CONC PVMT, 47B-3500
		10" CONC PVMT, 47B-3500	31442	STPD-35-3(105)	10,905.00	SY	10" CONC PVMT, 47B-3500
		10" DOWELED CONC PVMT, 47B-3500	31442	STPD-35-3(105)	31,926.00	SY	10" DOWELED CONC PVMT, 47B-3500
		10" CONC PAVEMENT PR-3500	31442	STPD-35-3(105)	806.00	SY	10" CONC PAVEMENT PR-3500
	Madison	10" DOWELED CONC PVMT, 47B-3500	31498	S-81-3(1035)	7,674.82	SY	On US 81 in Norfolk: intersection and Traffic Signals
	Madison	12" DOWELED CONC PVMT, 47B-3500	31955	HSIP-81-3(140)	320.60	SY	On US 82 at Ne 32: Intersection
	Thurston	9" DOWELED CONC PVMT, 47B-3500	30848A	STPD-75-4(103)	8,774.00	SY	On US 75 : Winnebago East about 1 mile of urban work
	Madison	10" CONC PVMT, 47B-3500	31416A	STPD-35-3(104)	6,877.00	SY	On Ne 35 in Norfolk: Grading, Culv., Surf., and S. Shoulder
		10" DOWELED CONC PVMT, 47B-3500	31416A	STPD-35-3(104)	17,360.00	SY	10" DOWELED CONC PVMT, 47B-3500
<b>DISTRICT 4</b>	Buffalo	6" CONC PVMT, 47B-3500	42344	STPD-30-4(148)	391.00	SY	On US 30 in Kearney: Urban work
		10" DOWELED CONC PVMT, 47B-3500	42344	STPD-30-4(148)	18,217.00	SY	
	Clay	8" CONC PVMT, 47B-3500	42401	STPD-S18B(104)	14.00	SY	On S-18B: Edgar Spur: Grading, culv. Resurfacing
	Buffalo	9" CONC PVMT, 47B-3500	42411	IM-80-5(65)	1,816.00	SY	On I-80 Odessa - Kearney Westbound: Concrete Pavement
		13" DOWELED CONC PVMT, 47B-3500	42411	IM-80-5(65)	170,115.00	SY	
	Adams	8" DOWELED CONC PAVE, CLASS 47B-3500	42442	STPP-34-4(132)	1,637.00	SY	On US 34 in Hastings between 7th & 9th Streets: Urban
		CONC PVMT, PR-3500	42442	STPP-34-4(132)	19.85	CY	CONC PVMT, PR-3500
<b>DISTRICT 6</b>	Lincoln	8" CONC PVMT, 47B-3500	60887	IM-80-4(104)	5,184.00	SY	On I-80 at the Maxwell Interchange: Bridge Deck Overlay
		8" DOWELED CONC PAVE, CLASS 47B-3500	60887	IM-80-4(104)	4,628.00	SY	8" DOWELED CONC PAVE, CLASS 47B-3500
	Thomas	6" CONC PVMT, 47B-3500	61044	NH-STPN-TMT-83-3(106)	4,262.00	SY	On US 83: Theford South Viaduct
		8" DOWELED CONC PAVE, CLASS 47B-3500	61044	NH-STPN-TMT-83-3(106)	22,816.00	SY	
		8" CONC PVMT, 47B-3500	61044	NH-STPN-TMT-83-3(106)	16,103.00	SY	8" CONC PVMT, 47B-3500
	Dawson	CONC PVMT, PR-3500	61196	IM-80-4(129)	28.85	CY	On I-80 at the Darr Interchange: Bridge Deck Overlay
	Keith	CONC PVMT, PR-3500	61346	RD-L51C(1004)	14.60	SY	On L-51C: the Paxton Link: Mill and resurfacing
	Dawson	6" CONC PVMT, 47B-3500	61433	DMY-283-2(102)	145.00	SY	On US 283 from Ash St. to Jefferson St in Lexington: resurfacing
		8" CONC PVMT, 47B-3500	61433	DMY-283-2(102)	1,415.00	SY	8" CONC PVMT, 47B-3500
		8" DOWELED CONC PAVE, CLASS 47B-3500	61433	DMY-283-2(102)	4,820.00	SY	8" DOWELED CONC PAVE, CLASS 47B-3500
	Lincoln	6" CONC PVMT, 47B-3500	61437	RD-83-2(1029)	5,931.00	SY	On US 83, State Farm Rd North, North Platte: Concrete pavement
		9" DOWELED CONC PVMT, 47B-3500	61437	RD-83-2(1029)	43,477.00	SY	9" DOWELED CONC PVMT, 47B-3500

\*Data obtained from the Trns\*Port database on August 15, 2008, based on projects currently scheduled to be let during this time period, for those projects having estimated quantities.

Price turnaround... continued from page 4

And just in case you really think the smoke is blowing, consider the parking lot at Northwest High School in Grand Island. Olsson Associates Project Manager Terry Brown, along with Design Engineer Ryan Kvan, developed a project with both PCC and HMA as overlay options. Stephens and Smith Construction from Lincoln bid the concrete option, and they were the low bidder!

Visit our website!  
[www.nebrconc.org](http://www.nebrconc.org)

Take Note:

The 2009 NCPA Workshop will be held at the Cornhusker Marriott in Lincoln, NE on January 7-8, 2009

Be sure to mark your calendars!



Recently, the Nebraska issued an revised Concrete Mixes Table 1002.02. The changes include :

- Adding “28-Day” to the top of the strength column
- Adding note 7
- Adding Note 8
- Changing the SF mix from 3500 psi to 4000 psi required strength.

Concrete Mixes (Cubic Yard Batch)

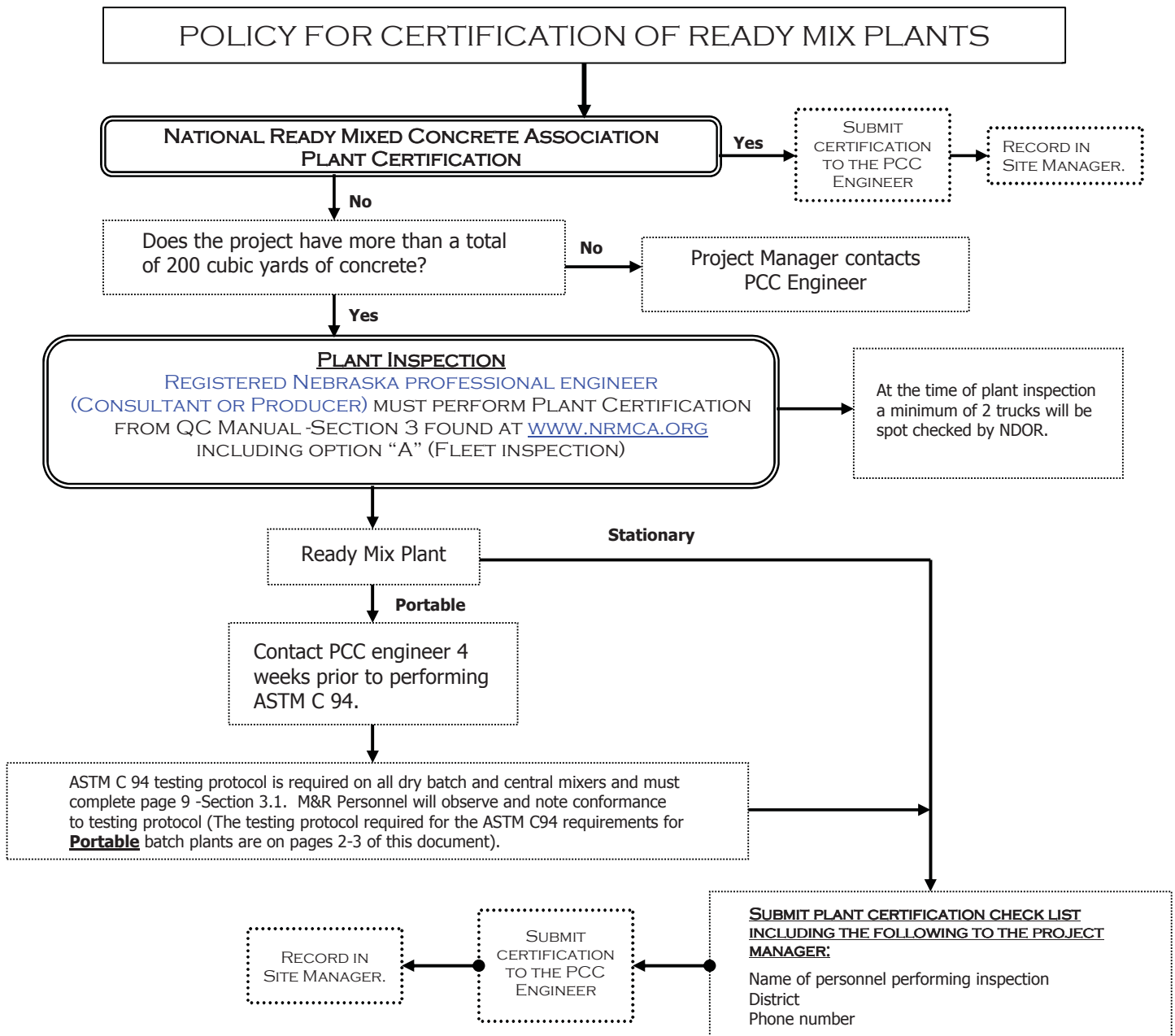
Class of Concrete (1)	Base Cement Type *	Portland Cement (Min. lb/cy)	Pre-Blended Class Fly Ash (Min. lb/cy)	GGBFS Slag (Min. lb/cy)	Class C Fly Ash (Min. lb/cy)	Silica Fume (Min. lb/cy)	Total Cementitious Materials (Min. lb/cy)	Total Agg. (Min. lb/cy)	Total Agg. (Max. lb/cy)	Coarse Agg. (%) (3)	Type of Coarse Aggregate ****	Air Content (% Min.-Max.) (2)	Water/Cement Ratio Max. (4)	Required Strength (Min. psi) (7)
47B**	1PF	423	141	0	0	0	564	2850	3150	30±3	Limestone	7.5 – 10.0	0.48	3500
47B***	1PF	423	141	0	0	0	564	2850	3150	30±3	Limestone	6.0 – 8.5	0.48	3500
47BD	1PF	404	164	0	0	0	658	2500	3000	30±3	Limestone	6.0 – 8.5	0.42	4000
PR1	I/II	752	0	0	0	0	752	2500	2950	30±3	Limestone	6.0 – 8.5	0.38	3500
PR3	III	799	0	0	0	0	799	2500	2950	30±3	Limestone	6.0 – 8.5	0.45	3500
SF	I/II	564	0	0	0	25	589	2850	3200	50±3	Limestone	6.0 – 8.5	0.38	4000
47BHE	1PF	564	188	0	0	0	752	2500	3000	30±3	Limestone	6.0 – 8.5	0.40	3500
BX (8)	1PF	423	141	0	0	0	564	2850	3150	0	0 (5)	6.0 – 8.5	0.48	3500
47BFS** (6)	1PF	338	113	113	0	0	564	2850	3150	30±3	Limestone	7.5 – 10.0	0.48	3500
47BFS*** (6)	1PF	338	113	113	0	0	564	2850	3150	30±3	Limestone	6.0 – 8.5	0.48	3500
47BDFS (6)	1PF	396	131	131	0	0	658	2500	3000	30±3	Limestone	6.0 – 8.5	0.42	4000

- (1) Each class shall identify the minimum strength requirement. (For example, 47B-3500, where the last four digits indicate the strength in pounds per square inch. In the chart, strength of 3500 psi is indicated for 47B-3500; however, other strengths may be authorized elsewhere in the contract. The classes shown in the chart are typical examples.)  
 All classes of concrete shall be air-entrained.  
 A slump test shall be performed to check for consistency and/or workability. Any increase in slump must be pre-approved by the Engineer.  
 A water reducer admixture shall be used at the manufacturer's recommendations.
- (2) As determined by ASTM C 138 or ASTM C 231.  
 FOR INFORMATION ONLY. The contractor may develop a Quality Control Program to check the quantity of air content on any given project; such as, checking air content behind the paver.
- (3) Coarse aggregate shall be limestone unless otherwise specified.
- (4) The Contractor is responsible to adjust the water/cement ratio so that the concrete supplied achieves the required compressive strength without exceeding the maximum water/cement ratio. The minimum water/cement ratio for any slip form concrete pavement is 0.38.
- (5) Single aggregate (sand-gravel) used for these classes of concrete.
- (6) 47BFS is an acceptable substitute for 47B and 47BDFS is an acceptable substitute for 47BD.
- (7) For each class of concrete acceptance, refer to the specifications
- (8) For temporary pavement type I/II cement is allowed
- (\*) Mixes with Type 1PF and Class F fly ash designation are pre-blended or interground with Class F fly ash by the cement mill producer at a rate of 25%±2%, no additional Class F fly ash is added at the batch plant.
- (\*\*) For slip form applications.
- (\*\*\*) For hand-pours and substructures applications.
- (\*\*\*\*) Quartzite aggregate can be used in place of limestone providing the aggregate meets Paragraph 3. b. of subsection 1033.02 of the Standard Specifications.

The Nebraska Department of Roads, Materials and Research Division issued a revised Policy for Certification of Ready Mix Plants. The flow chart below gives a bird's eye view of the new Policy.



(REV. JULY 2008)  
M & R DIVISION



**NOTE:**

1. Stationary Plants/Truck Certifications are required every two years.
2. Portable plants require certification a minimum of once a year
  - a. Contact PCC Engineer for a possible waiver if:
    - i. Portable plants remain at the same location longer than one year.
    - b. Trucks are to be certified every two years.

ASTM C94 REQUIREMENTS FOR PORTABLE BATCH PLANTS

1. ASTM C94 shall be performed on all portable batch plants
2. Contractor is responsible to have testing performed by ACI certified Grade I Technician
3. Test results shall be certified and submitted to the project manager/ QA for the ASTM C-94 testing along with the plant certification check list.
4. NDOR Materials and Research will have personnel observing the testing and noting conformance to the testing protocol.
5. Testing shall be performed the 1<sup>st</sup> week of concrete plant production.
6. All plants shall be allowed to perform regular paving operations at minimum of 60 sec. mix time or at the plant manufacturers' recommended mixing time, which ever is greater.
7. Samples will be taken at the mixer, immediately after the mix time is completed.
8. There will be a need for two samples one at 15% and one at 85% of the batch, in loaders, wheel barrows, a storage location etc. The samples must be protected to maintain the quality of the sample.
9. Slump and Air should be performed within 15 min. of each sample.
10. As a minimum, the following 5 tests will be performed and 4 must pass for the mixer to be approved at that specified mixing time.
  - a) Mass per cubic foot calculated to an air free basis, (¼ cu. ft can be used)
  - b) Air Content, volume % of concrete
  - c) Slump
  - d) Coarse aggregate content, portion by mass of each sample retained on #4 sieve, %
  - e) Average compressive strength at 7 days for each sample, based on average strength of three test specimens, %

Optional – Mass per unit volume of air free mortar based on average for all comparative samples tested, % (If this is used in addition to the 5 above, a total of 5 of the 6 must pass the ASTM C94 tolerances)

Table A1.1  
Requirements for  
Uniformity of Concrete  
(According to ASTM  
C94- Page 56 -  
Annual Book of ASTM  
Standards. Vol. 05.02

Test	Requirement, Expressed as Maximum permissible Difference in Results of Test of Samples taken from two Locations in the Concrete Batch
Mass per cubic foot calculated to an air-free basis, lb/ft <sup>3</sup>	1.0
Air Content, volume % of concrete	1.0
Slump: If average Slump is 4 in or less, in If average slump is 4-6 in	1.0 1.5
Coarse Aggregate content, portion by mass of each sample retained on No. 4 sieve %	6.0
Mass per unit volume of air-free mortar <sup>A</sup> based on average for all comparative samples tested, %	1.6
Average compressive strength at 7 days for each sample, <sup>B</sup> based on average strength of all comparative test specimens, %	7.5 <sup>C</sup>

<sup>A</sup> "Test for variability of Constituents in Concrete," Designation 26, Bureau of Reclamation Concrete Manual, 7<sup>th</sup> Edition.<sup>4</sup>  
<sup>B</sup> Not less than 3 cylinders will be molded and tested from each of the samples  
<sup>C</sup> Approval of the mixer shall be tentative, pending results of the 7 day compressive strength

11. If a mixer performance test fails immediately, and the contractor wants to continue a performance test at that particular mixing time, two consecutive tests must pass 4 or 5 ASTM C-94 uniformity requirements

# Current Members

Mike Arps	Arps Red-E-Mix	• Dan Owens	Lamp, Ryneanson & Associates, Inc.
Jim Ashoff	A & R Construction	• Jim Witt	Logan Contractors Supply
Ernie Peterson	Ash Grove Cement Company	• Norm Nelson	Lyman-Richey Corp.
Pete Sobetski	BASF Construction Chemicals	• Terry Rogers	Martin Marietta
Willie Calderwood	Cedar Valley Corp.	• Jim Musilek	Mid-State Engineering
Bob Nordquist	Concrete Industries	• John Spellman	Murphy Tractor & Equipment
Randy Howard	Constructors, Inc	• Kirk Keller	Nebraska Truck & Equipment Co., Inc.
Jim Harder	Diamond Engineering	• Tex Leber	Nebraska Ash
Sean Leach	Diamondvantage	• Doug Burns	North Central Cement Association
Terry Kraemer	Diamond Surfacing Inc.	• Richard Swanson	Nebraska Machinery Co.
Sam Olson	Dobson Brothers Construction Co.	• Merlyn Hansen	Overland Sand & Gravel
Jeffery Eliott	E&A Consulting Group, Inc.	• Dennis Sandrock	Paulsen, Inc.
Jim Pettit	General Resources Technology	• Mike McCullough	Pavers, Inc.
Tom Crockett	Hawkins Construction Co.	• James W. Ramey	Rose Equipment
Bill Sutton	Headwaters Resources, Inc.	• Bill Herr	Sarpy County
Matt Tondl	HDR Engineering, Inc.	• Joe Delgado	TCW Construction, Inc.
Mick Cristelli	Holcim (US) Inc.	• K.R. Buck	Ten Point Construction
Steve Parr	JEO Consulting Group	• Ron Woracek	The Schemmer Associates
Craig Rhinehart	Iowa Erosion Control, Inc.	• Steve Weidenhammer	Thiele Geotech
Frank Cranston	Kerford Limestone	• Tom Kellogg	TranSystems, Corp.
Roger M. Helgoth	Kirkham Michael & Associates	• Nathan Reed	Upper Plains
Bill Schoonover	Knife River West Division	• Dave Brankenhoff	Western Sand & Gravel
Joel Sedlacek	Lafarge North America	• Bert Wise	Wise Mack



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