



Newsletter

nebraska chapter
american concrete institute

PO Box 5144 Gateway Station • Lincoln, NE 68505 • www.acinebraska.org



Michael Gerdes

ACI Nebraska President

President's Message

I have been debating if this topic and this forum is a reasonable place for such presentation since I became President of the Nebraska Chapter of the American Concrete Institute earlier in

2011. I'm hoping to not offend any of our membership, but I feel strongly about political and economic discussions that are currently, and in the near future will have, the potential to directly affect the concrete industry, related industries and our economy as a whole.

Developing with increasing intensity over the past decades we have seen increasing restrictions and regulations placed on a multitude of industries, including industries affiliated with the production of raw materials for concrete. Currently, numerous discussions are taking place and language exists in pending legislation at various levels for additional future regulations, restrictions and possibly new fees or taxes on power generation and materials usage. Like it or not, our industry requires considerable power to acquire raw materials, produce materials, transport and place materials.

Our industry has seen product improvements and long term performance benefits of utilizing materials such as flyash. The incorporation of flyash in concrete has resulted in quality improvement and enhanced surface durability. Flyash is one of numerous targets environmental groups and governmental agencies wish to further regulate and possibly eliminate from beneficial uses associated with other materials such as concrete.

PRESIDENT'S MESSAGE . . . continued on next page

2011 ACI Nebraska Chapter

Awards of Excellence for the Use of Concrete in the State of Nebraska

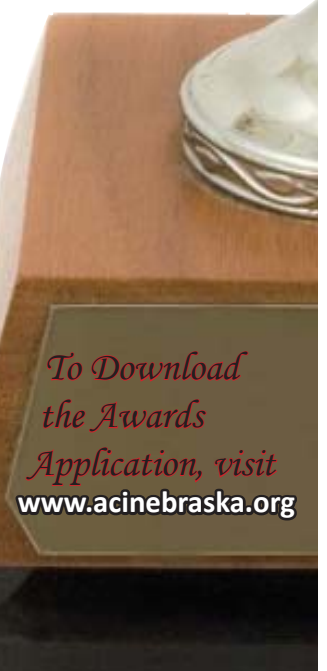
**Deadline for project
submittal is December 1st, 2011**

The Nebraska Chapter of the American Concrete Institute announces its annual Concrete Awards Program. The purpose of this competition is to recognize outstanding work in concrete construction and practices within the State of Nebraska.

Projects must be noteworthy for their use of concrete. The concrete may be precast, pre-stressed, cast-in place, tilt-up or concrete masonry. Special uses of concrete or innovative concrete construction techniques will be recognized.

In order to be eligible the projects must have been completed before November 2011. Completed applications are due by December 1st, 2011. Judging is done by a panel of professionals from various disciplines within the concrete industry. Awards will consist of plaques certificates to be presented to the owner, designer (Architect and/or Engineer), contractor and concrete supplier. These awards will be presented at the Nebraska Chapter Annual Meeting in February, 2012.

Now is the time to start thinking of unique and innovative concrete projects to be considered.



To Download
the Awards
Application, visit
www.acinebraska.org

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NEBRASKA CHAPTER**

Chartered, December 1987

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PRESIDENT'S MESSAGE . . . continued from page 1

It is my opinion that we have too long been bystanders. We have become disinterested in our political landscape and our lack of interest has allowed numerous small and often very vocal groups to alter the course of regulations and industry directions.

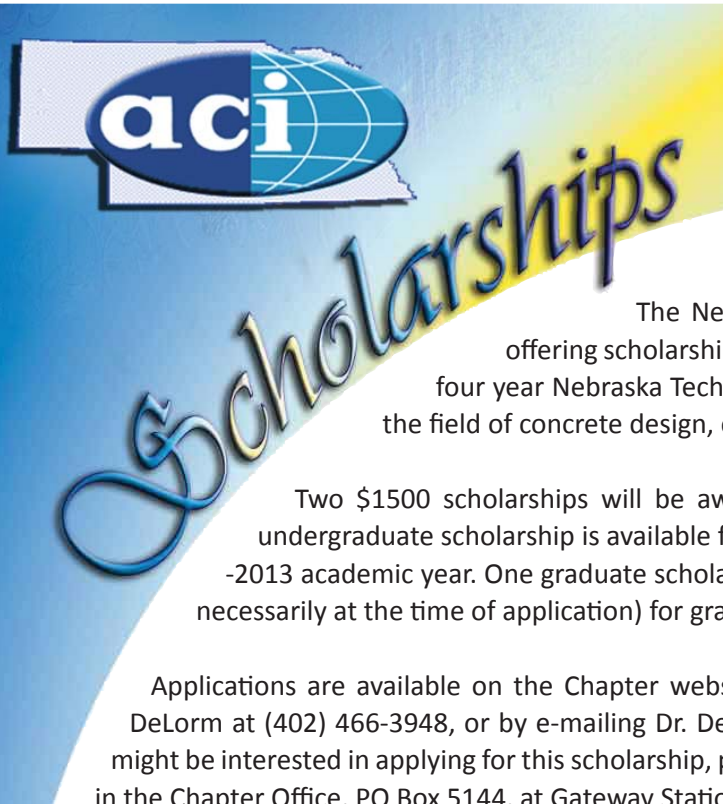
I believe we would agree that we "individuals and industry" must be good stewards of the land and our resources and pass these treasures on to the next generations. Many of our members have outdoor pastimes including hunting, fishing, enjoying the outdoors and many in our geographic area have a history working the land from small to large farms. My personal belief is that our members have more direct connections to "mother earth" than many of the eco-groups and legislators acting as our "planet's protectors".

"I wish to encourage our membership to become active in discussions that affect our industry and beyond. As long as we continue to be apathetic to the advancement of additional regulations, restrictions and a variety of new taxes or fees; it is my opinion that we will continue to subject to further economic and productivity burdens and growth will be significantly restrained."

- Michael Gerdes

Please be active at your local level as a starting place. The best tool to have in your toolbox is knowledge and the facts. We must be able to present a common sense counterpoint based on the facts available to us.





ACI Nebraska Chapter Offers Scholarships for 2012 - 2013 School Year

Submitted by R.T. DeLorm, Executive Secretary

The Nebraska Chapter of the American Concrete Institute will be offering scholarships for the 2012-2013 school year, to students at two year and four year Nebraska Technical Schools, Colleges and Universities, who are studying in the field of concrete design, construction, or materials.

Two \$1500 scholarships will be awarded at the annual banquet in February of 2012. One undergraduate scholarship is available for students who will be undergraduate students in the 2012-2013 academic year. One graduate scholarship is available for students who have been accepted (not necessarily at the time of application) for graduate study in the 2012-2013 academic year.

Applications are available on the Chapter website, www.acinebraska.org , or by contacting Dr. Richard T. DeLorm at (402) 466-3948, or by e-mailing Dr. DeLorm at rdelorm@neb.rr.com . If you know of anyone who might be interested in applying for this scholarship, please pass on this information to them. Applications are due in the Chapter Office, PO Box 5144, at Gateway Station, Lincoln, Nebraska, 68505, by Friday, December 16, 2011 .

October or November Vote for Bill Protecting Ash Recycling

*(Source: Citizens for
Recycling First, Ash Blog)*



House Majority Leader Eric Cantor announced August 29 that HR 2273 – the “Coal Residuals Reuse and Management Act” – will likely be voted on by the full House of Representatives in October or November.

HR 2273 will protect the environment by setting up new standards for coal ash disposal and will protect coal ash recycling by preventing the Environmental Protection Agency from labeling coal ash as “hazardous waste.”

Majority Leader Cantor made the announcement in a memo to Republicans that outlines House legislative priorities for the fall. Congress will return from its August recess after Labor Day to an ambitious agenda focused on encouraging jobs and combating overreaching environmental and labor regulations. Majority Leader Cantor included coal ash in a list of 10 regulations he contended were the “most harmful” to job creation. “By pursuing a steady repeal of job-destroying regulations, we can help lift the cloud of uncertainty hanging over small and large employers alike, empowering them to hire more workers,” Cantor wrote in his memo.

Coal ash recycling supporters can help ensure HR 2273 passes by a wide margin this fall by contacting their U.S. Representatives and urging them to vote YES on HR 2273. Members of the House need to know that they have constituents who care about protecting coal ash recycling.

Nebraska U.S. Representatives

Jeff Fortenberry
301 South 13th Street, Suite 100
Lincoln, NE 68508
p (402) 438-1598
t (866) 725-5255
f (402) 438-1604

Lee Terry
11717 Burt Street, Suite 106
Omaha, NE 68154
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Adrian Smith
1811 West Second Street
Suite 275
Grand Island, NE 68803
Phone (308) 384-3900
Fax (308) 384-3902

MEMBERSHIP REPORT

Submitted by Michael Gerdes

Over the past months we have updated and finalized our biannual Membership Directory. The new directories should be in the mail shortly. The Membership Directory listings will include only current paid members on record as of mid August 2011. Please review your listing in the Directory; if any revisions are needed please contact Jereme Montgomery via email or phone with your updated contact information. If your name is not listed, please contact myself or Jereme to check on membership status and renewals. Jereme's contact phone number is (402) 325-8414 or he can be contacted via email at jereme@nebrconagg.com. My contact phone number is (402) 556-2171 or I can be contacted via email at mgerdes@thielegeotech.com.

Tracking with the economy over the recent past years, Chapter membership had decreased from our highest membership levels about 5 years ago. As expected, membership levels are associated with economic and construction industry activity. Over the past months, we have seen membership levels rebound slightly. The Chapter is growing. It is not a leaps and bounds sort of growth, but growth is good. We have seen new members added during the year and at the Annual Golf Outing. Membership

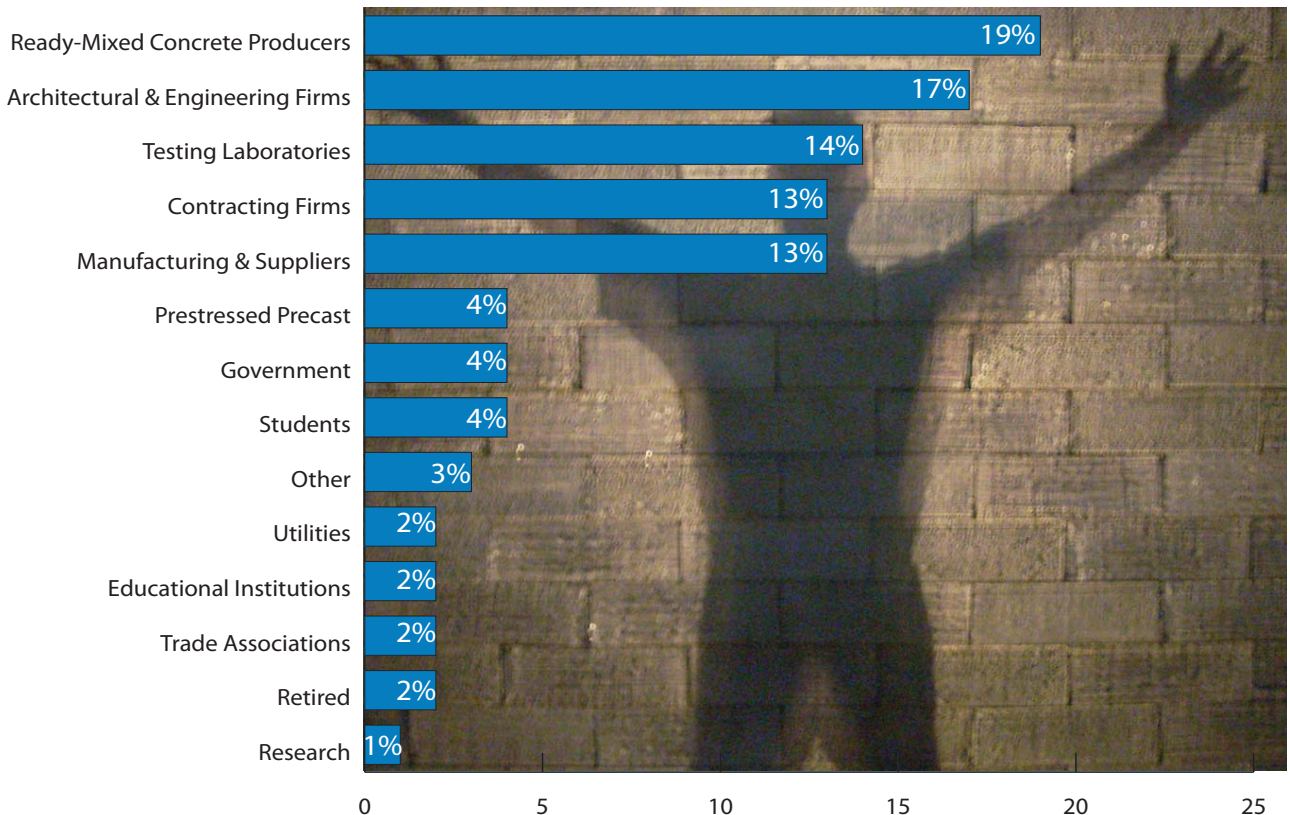
statistics as of July 2011 are shown in the chart (above).

As seen in the accompanying chart, the Nebraska Chapter of ACI has a diverse membership of technicians and construction inspectors, production and product representatives, materials suppliers, contractors, architects, and engineers. The strength of our chapter membership is closely related to our membership diversity.

Please join us in our continued quest for further strengthening our chapter. The benefits of increased membership will enhance our programs, increase networking opportunities in the industry, and further promote our technical training abilities.

I wish to challenge our members to inform your fellow industry associates of the benefits associated with a membership in the Nebraska Chapter of ACI. Membership cost is \$30 per year for regular associates and \$5 for students. Members receive reduced rates for seminars and outings. A membership form is also posted on the Nebraska Chapter website at <http://www.acinebraska.org/Applyformembership2.htm>

Membership Statistics



CONCRETE STRENGTH . . . continued from previous page

Understanding Minimum Specified Compressive Strength ($f'c$)

Jereme Montgomery
Executive Director, NC&AA

I have always said concrete strength is overrated. Compressive strength is only one characteristic of concrete that does not seem well understood by all. Project specifications are always specified with some minimum compressive strength requirement with the notation, $f'c$.

If you have read my "Durability Position" paper, I state the minimum required compressive strength ($f'c$) for exterior concrete in freeze thaw environments, in moist conditions that are subject to deicers, is 4500 psi. This is what I have read in ACI documents and we NEVER disagree with the American Concrete Institute. Well, I am jumping ship. I do not agree with specifying $f'c = 4500$, for exterior pavements...especially residential driveways. You may think this paper is over analyzing compressive strength of concrete, but I think it is important to understand what concrete strength data is telling us.

One key factor to durability of exterior concrete is reducing permeability. If you can reduce the permeability, then you can reduce the amount of moisture and chemicals concrete can absorb. There are many ways to reduce permeability of concrete. The most economical way is reducing the water / cement ratio. According to ACI 318 – The Building Code and ACI 332 – The Residential Code, the maximum water cement ratio specified is 0.45. These documents also refer to a minimum strength requirement ($f'c$) of 4500 psi.

ACI 318-08 commentary, explains in detail:

"R4.1.1....Because it is difficult to accurately determine the w/cm of the concrete, the compressive

strength specified should be reasonably consistent with the w/cm required for durability. Selection of an $f'c$ that is consistent with the maximum permitted w/cm for durability will help ensure that the maximum w/cm is not exceeded in the field. For example, a maximum w/cm of 0.45 and $f'c$ of 3000 psi should not be specified for the same concrete mixture. Because the usual emphasis during inspection is on concrete compressive strength, test results substantially higher than the specified compressive strength may lead to a lack of concern for quality and could result in production and delivery of concrete that exceeds the maximum w/cm ratio."

ACI 332 – Residential Concrete Committee Balloted and Passed a New Strength Requirement for Exterior Concrete
This article was submitted to ACI 332 Subcommittee "Concrete Requirements" to urge the committee to reduce the current strength requirement from ($f'c$) 4500 psi to 4000 psi.



I agree with the statement from ACI 318. I also agree that if the concrete is going to be classified as structural, $f'c = 4500$ psi would be fine. Not only should structural buildings be designed for durability, but also for safety and public welfare, using safety factors and overdesign calculations.

I also agree that if a mix that is placed has a w/c of 0.45 or less, you should see average compressive strengths at 4500 psi or above. Notice I did not say "minimum required compressive strength ($f'c$)". What I do not agree with is specifying $f'c$ of 4500 psi as a requirement for non-structural exterior concrete. ACI 332-08 "Code Requirements for Residential Concrete" also requires $f'c$ to be 4500 psi, as well as, maximum w/c 0.45 for exterior patios, driveways, and sidewalks. If I am going to disagree with ACI, I better have a good reason, which is the purpose for this paper.

First lets explain what minimum compressive strength ($f'c$) really means. According to ASTM C 94,

- 18.4.1 The average of any three consecutive strength tests shall be equal to, or greater than, the specified strength, $f'c$ and

CONCRETE STRENGTH ... continued from previous page

- 18.4.2 When the specified strength is 5000 psi or less, no individual strength test (average of two cylinder tests) shall be more than 500 psi below the specified strength, $f'c$

Let's say a project is specified with $f'c$, minimum required compressive strength of 4500 psi with a maximum water cement ratio of 0.45. A concrete subcontractor submits the project specifications to the Ready Mix Concrete producer. These requirements forces concrete producers to use equations;

- $f'cr = f'c + 1.34s$ (for mixes with 30 or more test data) or
- $f'cr = f'c + 1200$ (for mixes with no test data history)

Where $f'cr$ is the average compressive strength

If $f'c$ is 4500 psi and using a standard deviation (s) of 500 psi, this will require minimum average compressive strengths, $f'cr$, of 5170 psi to 5700 psi. These overdesign calculations will lead to richer mixes (higher cement contents) that are not needed, or lower w/c around .40, which may not be constructible for many markets.

If the critical component is water cement ratio, and 0.45 is the maximum requirement, then maybe we should specify average compressive strengths, $f'cr$? Wouldn't that be a better way of ensuring the concrete was placed with the proper water cement ratio? What if we used these equations with an average strength, $f'cr$, of 4500 psi?

- $4500 \text{ psi} = f'c + 1.34(500 \text{ psi})$, then Minimum Compressive Strength, $f'c = 3830 \text{ psi}$ or round up to $f'c = 4000 \text{ psi}$.
- $4500 \text{ psi} = f'c + 1200 \text{ psi}$, then Minimum Compressive Strength, $f'c = 3300 \text{ psi}$ or round up to $f'c = 3500 \text{ psi}$.

If I had it my way, I could easily specify:

- Minimum 28-day Compressive Strength, $f'c = 3500 \text{ psi}$
 - This keeps mix designs submitted to moderate cement content, typically 3500 psi concrete has 564 lbs of cement. The higher the specified strength the more cement is added.

What's This?

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- Maximum water cement ratio = 0.45
 - If the specification has a maximum w/c of 0.45, you should see 28 day strengths averaging 4500 psi. Half of the tests will be below 4500 and half will be above 4500 psi, indicating that the producer and contractor supplied and placed concrete with a w/c around 0.45. Through test data I have seen, 4500 psi can be achieved with 3500 pound concrete with a w/c of 0.45. Look at the mix data sheets submitted for the project.

This does not take into account proper finishing and proper curing, which also influence surface durability. Back to my statement, compressive strength is overrated. It is overrated if you don't understand what the ultimate goal for exterior concrete is...reduce the permeability. Compressive strength data can be a great tool to understand what is actually being placed in the field regarding water cement ratio.

Technology will soon bring us equipment to test for total water content in the field by effective and efficient manners. But until then, look for test data on your project that averages 4500 psi to ensure concrete was delivered and placed at a reasonable water to cement ratio.

Golf Scramble at Beatrice Country Club

On Monday July 25, 2011 a contingent of ACI golfers gathered at the Beatrice Country Club to play in a Tournament that had been postponed from a date in May. This was a hot, hot, day with temperatures in the high 80's to start, and finished in the high 90's. It was sunny and there was a slight breeze all afternoon.

The tournament was a Texas Scramble, with a shotgun start. The Scramble format is popular because it takes the pressure off the high handicap golfers. Each golfer in the foursome hits off the tee. The team players decide which is the best ball to play and all four players make their next shot from that spot. Players pick up the balls not used. This process continues for each shot, including putts, until the ball is in the hole. The team score is the sum of the individual hole scores.

At the end of play the club PRO gathered the scorecards and split the golfers into two flights. He also took the responsibility for naming the flag prize winners. No one won more than one flag prize. Jereme Montgomery took charge of handing out the flag prizes and naming the winners of the two flights.

Flight One Winners were the team of Kirk Havranek, Shon Davis, Shawn Wentworth and Jerry Kuhl with a team score of 62 on this par 72 course. Second flight honors went to the team of Nicholas Sedlacek, Paul Kostal, Kevin Trauernicht and Ray Wagner with a 69. Great Golfing on a Hot day in July.



*Winners of the first flight, L to R:
Kirk Havranek, Shon Davis, Shawn Wentworth and Jerry Kuhl*



*Winners of the second flight, L to R:
Nick Sedlacek, Paul Kostal, Kevin Trauernicht and Ray Wagner*

Pictures by R. T. DeLorm

GOLF ... continued on next page

GOLF . . . continued from previous page



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Flag prizes went to the following:

Hole #1	Closest to pin from off the green	D Anderson
Hole #2	Closest to the pin, 2ND shot	Steve Weidenhammer
Hole #3	Long Putt made	John Gran
Hole #4	Long drive in Fairway	Bruce Meyer
Hole #5	Closest to pin, from the tee	Todd Krieger
Hole #6	Long putt made	Joe Menard
Hole #7	Closest to the pin 2ND shot	Ben Ricceri
Hole #8	Long putt made	M Christenson
Hole #9	Closest to the pin 3RD shot	Bob Menard
Hole #10	Long putt made	Bob Menze
Hole #11	Closest to pin 1ST shot	David Thibault
Hole #12	Closest to pin 2ND shot	Kirk Havranek
Hole #13	Long Putt made	Ray Wagner
Hole #14	Long drive in Fairway	Larry Lewis
Hole #15	Closest to pin Tee shot	Kevin Trauernicht
Hole #16	Long putt made	Dude Blackwell
Hole #17	Closest to pin from off the green	Don Thiele
Hole #18	Long putt made	Shawn Wentworth

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*The Nebraska
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Tim Hedgeholz
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George Morcouc
Kristi Nohavec

UNL
The Clark Enersen Partners



ACI Nebraska Chapter Welcomes Dr. George Morcoux to Board

Dr. George Morcoux

Dr. George Morcoux is an associate professor at Durham School of Architectural Engineering and Construction at the University of Nebraska-Lincoln since January 2005 and joins the Nebraska Chapter ACI as a new board member for 2011.

Dr. Morcoux has a B.S. and M.S. degrees in Civil Engineering from Cairo University-Egypt. He earned his doctorate degree from Concordia University – Canada in 2000. He is currently a registered professional engineer in Nova Scotia – Canada and in the State of Nebraska, His research and teaching interests include design and construction of reinforced and prestressed concrete structures. He is the author and co-author of over 75 referred publications and a member of several professional organizations, such as ACI, PCI, ASCE, and TRB.



Kristi Nohavec on Slate for ACI Nebraska Board

Kristi Nohavec, P.E.

Kristi Nohavec is an Associate Principal with The Clark Enersen Partners and has accepted the responsibility of a two-year term on the ACI Nebraska Chapter Board.

Kristi has dual professional registrations in engineering and architecture. She is active in several organizations including the American Institute of Architects - Nebraska Chapter (NE AIA) (President, 2010), Architectural Foundation of Nebraska (AFN), Structural Engineers Association of Nebraska (SEAON), Nebraska Section of the American Society of Civil Engineers (NE ASCE), and National Society of Professional Engineers (NSPE). She also is an active organizer/volunteer for Cornhusker Girls State sponsored by the Nebraska American Legion Auxiliary.

ACI/PCA 318-11 Building Code Seminar

The American Concrete Institute (ACI) has just published the latest edition of "ACI 318-11 Building Code Requirements for Structural Concrete and Commentary".

This seminar, which is cosponsored by ACI and the Portland Cement Association (PCA), will cover all of the major changes in this new edition of the Code.

A major portion of the revisions are related to the addition of adhesive anchors in ACI 318 for the first time. In addition to the new anchor design requirements, the seminar will cover adhesive anchor evaluation requirements and new provisions requiring certification of the anchor installer under certain circumstances. Changes to reinforcing steel detailing requirements, allowable grades, and coating types will also be covered.

Important topics, such as detailing for structural integrity and designing using the latest in strut-and-tie modeling, will be presented and discussed.

Included with the seminar are complimentary copies of ACI's "Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary" and worked examples prepared by PCA— essential items that anyone in the concrete industry will refer to over and over for the next several years.

Locations Near Nebraska:

Chicago, IL	Des Moines, IA	Denver, CO
Sep 13, 2011	Nov 15, 2011	Nov 29, 2011

**More information
can be found @ www.cement.org**



nebraska chapter
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NEWSLETTER EDITOR

R.T. DELORM

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Progress through Knowledge

You're invited!

On behalf of the ACI Greater Miami Valley Chapter, we would like to invite you to attend the ACI Fall 2011 Convention, October 16-20, 2011, in Cincinnati, Ohio. We are thrilled to have the opportunity to host this convention and we are looking forward to welcoming you to the Queen City—Cincinnati.

We are proud to call the state of Ohio and Cincinnati our home. Cincinnati is the site of the first reinforced high-rise building, the Ingalls Building, built in 1902. We have created a unique and educational program based on the convention theme “Bridging Theory and Practice.” Convention highlights include a technical tour of the Jeremiah Morrow Bridge, a tour of Paul Brown Stadium—home of the Cincinnati Bengals, a riverboat cruise on Monday evening, a Concrete Mixer at Cincinnati Museum Center at Union Terminal, a variety of technical sessions, networking opportunities, and a fantastic guest program with tours of the local area for all to enjoy.

We are sure you will find the ACI Fall 2011 Convention to be an excellent opportunity to contribute your expertise to the industry, a place to learn about the latest advances in concrete technology, and a place to develop relationships with the world's leading concrete professionals. We look forward to seeing you all in Cincinnati, Ohio, October 16-20, 2011!



Daniel Dorfmueller
Chair, ACI Greater
Miami Valley
Chapter Convention
Committee

www.concrete.org

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