



2011 MINNESOTA CONCRETE COUNCIL AWARDS & ANNUAL REPORT



STRUCTURAL DESIGN MERIT

INDUSTRIAL/AGRICULTURAL

MATERIAL DEVELOPMENT
AND INNOVATION

SUSTAINABLE CONCRETE
CONSTRUCTION

TRANSPORTATION



minnesota concrete council
Dedicated to Cast-in-Place Concrete

FROM THE PRESIDENT



I would like to take this opportunity to thank the members, volunteers and sponsors of the Minnesota Concrete Council for the opportunity to be your president in 2010-11.

When I moved to Minnesota in 2000, I immediately recognized MCC as a very special group that is unique in our industry. MCC provides an opportunity for all members of the construction industry to gather, network, learn and promote. Elsewhere, engineers may gather, contractors may gather, vendors may gather... but no other group combines all interested parties under one banner like MCC. This diversity is our strength and allows us to accomplish great things.

As I prepare to pass the reins on to Keith Jacobson (President, VAA, LLC), I am both proud and humbled by all we were able to accomplish in the last year.

Some of the highlights of 2011:

- We expanded our membership despite a struggling economy. This is a testament to the value that MCC offers to its membership. The critical support of our members and sponsors has allowed us to greatly improve the quality of all our programs.
- We approved new bylaws that now more effectively meet the needs of a large, diverse organization. The new bylaws give the group clear rules of operation and will allow for strong governance and growth for many years to come.
- We offered more in-depth, topic-specific programs and less general interest events. Members clearly indicated that our time is at a premium and the need for high-impact learning is more acute than ever. MCC instituted three half-day symposiums to replace the full day annual seminar and continued to offer dynamic breakfast meetings on a monthly basis. The positive response has been overwhelming with an increased participation by a wider demographic of both members and non-members.
- We offered more regionally and nationally recognized speakers. The financial support from our membership, sponsors and the Portland Cement Association North Central Region allowed us to bring in many speakers that you might only have seen previously at events such as World of Concrete or ACI conventions. Balancing presentations by both local speakers with national and regional speakers allows us to produce the highest quality events possible.
- We adapted and expanded the 2nd Annual Awards ceremony which will be held in January. There are many award programs in our industry, but MCC's program provides the most encompassing of the venues. Each project team member is honored - from the designers and engineers to the general contractors and concrete constructors and ultimately the owners and their representatives. I believe that with the support of our members and sponsors, our awards program will continue to grow and will ultimately become a marquee event for our industry.
- Of course we had a lot of fun too. The golf tournament sold out despite a tough economy and the Big Shoot boasted its largest crowd ever!

We've accomplished a lot, had a lot of fun and hopefully helped MCC to strengthen and grow. I thank you again for my term as President of MCC. It has been both rewarding and challenging and I look forward to continuing to be a proud, active member for many years to come.

David Meyer, MCC President 2010-2011
Lafarge North America

MCC LEADERS

MCC Past Presidents

1989-90: Dave Pace, Cemstone Products Company
1991: Ed Johnson, Jesco
1991-92: Terry Swor, American Engineering Testing, Inc.
1993: Jim Paquin, CECO Corporation
1994: Tom Downs, BKBM, Inc.
1995: Pat Kinsel, Cemstone Products Company
1996: Daniel Kelly, Rochester Ready Mix Company
1997: Roger Oberg, BKBM, Inc.
1998: Mark Bintzler, Aggregate Industries, Inc.
1999: Michael Ramerth, Meyer, Borgman, & Johnson
2000: Bruce Wallace, Tioga, Inc.
2001: Kevin MacDonald, Cemstone Products Co.
2002: Richard Dufresne, Walker Parking Consultants
2003: Michael Johnson, McGough Companies
2004: Gerard Moulzolf, American Petrographic Services
2005: Anthony Polusny, Meyer, Borgman & Johnson
2006: Tom Dykhoff, Adolfson & Peterson
2007: Amy Trygestad, Portland Cement Association
2008: Dean Stroschein, Knutson Construction Services
2009: Bill Frazier, AVR Inc. & Affiliates
2010: Terry Babcock, Construction Midwest, Inc.
2010-11: Dave Meyer, Lafarge Cement

2011 Outgoing Board Members

Past-President: Bill Frazier (AVR Inc. & Affiliates)
Director: Jeff Coleman (Coleman Hull and van Vliet)
Director: Josh Edwards (AVR Inc. & Affiliates)
Director: Scott Wingrove
(Knutson Construction Company)

2012 Board of Directors

President: Keith Jacobson (VAA, LLC)
Vice-President: Jeff Coleman
(Coleman Hull and van Vliet)
Treasurer: Carl Schneeman
(Walker Parking Consultants)
Past-President: Dave Meyer (Lafarge Cement)
Director: Terry Babcock (Construction Midwest)
Director: Brad Koland (Target Corporation)
Director: Cary Miller (McGough)
Director: Steve Ruesink (American Engineering Testing)
Director: Dan Vruno (American Engineering Testing)
Director: Mike Ward (Cemstone Products Company)



MCC 2012 EDUCATION PROGRAM

January 12, 2012 - MCC Awards Banquet

February 16, 2012 - MCC / MC&MCA Breakfast Meeting

Crack Free Concrete Repair – Are We There Yet? - Frank Apicella (BASF Construction Chemicals). The total annual cost for repairing and maintaining concrete structures in the United States is estimated at \$18-\$21 billion. Cracking of concrete repair materials is a critical and costly factor affecting the service life of a repaired structure. This presentation focuses on the key material properties that influence cracking in cementitious repair materials and the test methods that can aid the selection of repair materials with a low likelihood of cracking.

March 28- 29, 2012 - MCC / ASCC Joint Symposium

Dealing with the Challenges of Green Concrete - Ward Malisch (ASCC). Portland cement replacement with up to 70% slag cement and fly ash is now being specified on many jobs to improve sustainability. This presents many problems for contractors because the properties of both fresh and hardened concrete are affected when such mixes are used. This session will help concrete contractors understand the problems and deal with them, preferably before bidding the job.

Quantifiably Sustainable—Moving Beyond LEED - Dr. Kevin MacDonald (Cemstone). This interactive session will teach experienced mixture proportioners how to compute the life-cycle assessment data required for mixtures. Attendees will learn how to compute the embodied energy content and greenhouse gas emission of mixtures and use criteria functions and optimization equations. Attendees will also develop an understanding of the role of life-cycle assessment in sustainability.

How to Work with Your Contractor/Producer - Jeff Young (Buckeye Ready Mix) and Rocky Geans (LL Geans Construction Co)

Case Study – Cowles Center for the Arts – Minneapolis, Minnesota - Mike Johnson (McGough Construction), Andrew Rauch (BKBM Engineers) and Will Law (ArtSpace)

April 19, 2012 – Breakfast Meeting

Joint Deterioration Study and Guide for Optimum Joint Performance of Concrete Pavements - Dr. Peter Taylor (CP Tech Center). The objective of this presentation is to identify the failure mechanisms occurring in the joints of concrete pavements in various northern states, and to develop strategies to prevent the deterioration of new pavements in the future. The CP Tech Center's Interim Guide for Optimum Joint Performance of Concrete Pavements was published in September 2011. The purpose of this guide is to help practitioners understand how to optimize concrete pavement joint performance through the identification, mitigation, and prevention of joint deterioration.

May 17, 2012 – Breakfast Meeting

Concrete Sustainability vs Constructability - Closing the Gap - Tim Cost (Holcim). In this presentation Mr. Cost explores how early-age performance of sustainable concrete mixtures with greater byproduct materials content can be enhanced. The paper and presentation introduce simple screening tests for optimization of mix designs for acceptable setting and early strength performance, so that use of these sustainable materials can be maximized.

June 21, 2012 – Breakfast Meeting

Virtual Design and Construction (VDC) and BIM – A Contractors Perspective - Eric Keleny (Mortenson). Many general contractors and construction management companies rely on surprisingly low-tech project management processes to detect clashes between building systems. Two-dimensional drawings guide the process, and thousands of requests for information (RFIs) are common. As a result, budget overruns, field coordination issues, delays, and change orders are likely. This presentation will discuss how Mortenson uses BIM and virtual design and construction (VDC) to model not only the design of a building, but the end-to-end construction process itself. Whether they are managing a project or constructing the structure themselves, they can analyze constructability, coordinate the process, and address clashes.

September 20, 2012 – Breakfast Meeting

Cold Weather Concreting and Changes to ACI 306-10 - Steve Morrical (Holcim). Are you ready to place concrete so cold weather doesn't damage it and so it can cure in a reasonable amount of time? The best advice on how to do this is the new ACI 306R-10, "Guide to Cold Weather Concreting." This presentation will cover the first new version of ACI 306 in more than 20 years and it includes information on new approaches, such as maturity testing and antifreeze admixtures, and clearly written advice on the old standbys, such as enclosures, insulation, supplementary heat, and admixtures.

October 17, 2012 – Decorative Concrete Symposium

Chris Sullivan (ChemSystems Inc.) and Tom Graf (Concrete Arts). As a technical expert for The Concrete Network he regularly contributes articles about all facets of decorative concrete and answers questions about common problems dealing with stamped concrete, coloring and staining, cleaning and sealing, concrete overlays, and more. The presentation will cover troubleshooting decorative concrete and how mastering the basics is critical to achieving high-quality results and presenting a good image of the decorative concrete industry as a whole.

November 2012 - MCC / ACI Joint Breakfast Meeting

Topic to be Determined - Dr. Ken Hover, P.E. (Cornell University). Named one of the Top 10 Most Influential People in the Concrete Industry by Concrete Construction Magazine, Ken Hover is a Professor of Civil & Environmental Engineering and Stephen Weiss Presidential Fellow at Cornell University in Ithaca, New York and is currently President of the American Concrete Institute. Few people have explained as much about concrete to so many people with as much clarity as Dr. Kenneth Hover. He is in great demand and is widely acknowledged as one of the top speakers on the technical aspects of concrete. If you've never participated in one of Ken's wildly popular World of Concrete seminars, you've really missed something. From someone with a PhD in engineering, it's surprising how much fun it he makes it to learn why concrete behaves the way it does.

STRUCTURAL DESIGN MERIT

1ST
PLACE



Frederick R. Weisman Art Museum Expansion. The Weisman Art Museum expansion enhances the visionary design of the original museum using innovative cast-in-place concrete systems. The addition includes galleries, studio space and a pedestrian plaza extension.

Project Team Members: *Owner:* University of Minnesota, Frederick R. Weisman Art Museum *Architect of Record:* Hammel, Green and Abrahamson, Inc. *Design Architect:* Gehry Partners, LLP *Engineer of Record:* Hammel, Green and Abrahamson, Inc. *General Contractor:* J.E. Dunn Construction *Concrete Supplier:* Cemstone Products Company *Concrete Subcontractor:* Kelleher Construction, Inc.

INDUSTRIAL/AGRICULTURAL

1ST
PLACE



Target T-3897 Food Distribution Center. The project is a 360,000 sf cold storage facility owned and operated by Target Corporation that will support the supply chain of food to 235 Target stores in Texas and the surrounding states.

Project Team Members: *Owner:* Target Corporation *Architect of Record:* Target Corporation *Engineer of Record:* Target Corporation *General Contractor:* Ryan Companies US, Inc. *Concrete Supplier:* Redi-Mix Concrete *Concrete Subcontractor:* Potter Concrete *Shrinkage Compensating Concrete Subcontractor:* The Fricks Company *Additional Participant:* Jim North (Third party concrete slab consultant) *Additional Participant:* Structural Services, Inc.

ENTRIES



CenterPoint Energy Building Rehabilitation. The CenterPoint Energy building at 800 West Linden had seen better days. The majority of the rehabilitation on this project consisted of cross-stitching the slabs, reinforcing the slabs with drop beams, and adding a topping slab to level the existing floors.

Project Team Members: *Owner:* CenterPoint Energy *Engineer of Record:* VAA, LLC *General Contractor:* Construction Results Corporation *Concrete Supplier:* AVR, Inc. & Affiliates



Cowles Center for Dance and the Performing Arts. The new Cowles Center complex connects two of Minneapolis' most historic landmarks, the 1888 Hennepin Center for the Arts and the 1910 Shubert Theatre, which originally stood two blocks away. Over 12 days the theater was moved to its new home on Hennepin Avenue; at 5.8 million pounds, it was the heaviest building ever moved on rubber tires.

Project Team Members: *Owner:* Artspace USA *Architect of Record:* Miller Dunwiddie Architecture *Engineer of Record:* BKBM Engineers *General Contractor:* McGough Companies *Concrete Supplier:* AVR, Inc. & Affiliates

ENTRIES



Grain Storage Addition. To meet their urgent need for additional grain storage capacity and to provide loading and unloading systems with adequate capacity and speed, Markit County Grain, LLC in Argyle, MN embarked on an ambitious 1.6 million bushel expansion of their grain storage facility in Argyle, MN.

Project Team Members: *Owner:* Markit County Grain, LLC *Engineer of Record:* VAA, LLC *General Contractor:* Vigen Construction, Inc. *Concrete Supplier:* Strata Corporation



St. Cloud Waste Water Treatment Plant. To meet the demands of community growth, the St. Cloud City Council knew it needed to expand the capacity of their existing wastewater treatment plant. The new facility can process 18 million gallons per day and consists of several large open reinforced concrete tanks requiring over 20,000 cubic yards of concrete.

Project Team Members: *Owner:* City of St. Cloud *Architect of Record:* TKDA *Engineer of Record:* Black & Veatch *General Contractor:* Knutson Construction *Concrete Supplier:* AME Red-E-Mix

MATERIAL DEVELOPMENT & INNOVATION

1ST
PLACE



CAPX 2020. The CAPX 2020 project is a multiphase upgrade to the power transmission grid being constructed by 11 electric utilities in the Upper Midwest and three surrounding states. This project was innovative because many of the pole pads were situated in the middle of an ice-covered marsh with 30-foot deep equipment-swallowing muck below the surface.

Project Team Members: *Owner:* Xcel Energy *Engineer of Record:* Xcel Energy *General Contractor:* Xcel Energy *Concrete Supplier:* AME Red-E-Mix

SUSTAINABLE CONCRETE CONSTRUCTION

1ST
PLACE



Carleton College - Weitz Center for Creativity. The Weitz Center for Creativity combines new construction with an innovative repurposing of the former Northfield Middle School. The project called for the renovation and re-use of the original 1910 building, preserving many of its unique architectural features.

Project Team Members: *Owner:* Carleton College *Architect of Record:* Meyer Scherer & Rockcastle LTD *Engineer of Record:* Meyer Borgman & Johnson *General Contractor:* McGough Companies *Concrete Supplier:* AVR, Inc. & Affiliates

ENTRIES



Introducing the Super Series. The Super Series mixes were researched and developed by working with contractors to create mixes that are optimized for specific residential applications. These proprietary mixes use the latest technology in aggregate blending, cementitious materials and chemical admixtures to meet market needs.

Project Team Members: *Owner:* Aggregate Industries



Rapid Pave & 2010 I-94 Concrete Pavement Repair. Over 24,500 cy of Cemstone's RAPID PAVE were placed as joint repair on 7.6 miles of I-94. A cumulative promotional effort was used to convert this from an asphalt overlay to concrete.

Project Team Members: *Owner:* Mn/DOT *Architect of Record:* Mn/DOT *Engineer of Record:* Mn/DOT *General Contractor:* Interstate Improvements, Inc. *Concrete Supplier:* Cemstone Products Company

ENTRIES



Second Street Ramp. The Mankato Second Street Ramp is a 3-level parking structure that reuses an existing foundation and provides parking for the historic downtown business district and facilitates open public spaces.

Project Team Members: *Owner:* City of Mankato *Architect of Record:* I & S Group *Engineer of Record:* Walker Parking Consultants *General Contractor:* Knutson Construction Services *Concrete Supplier:* Central Concrete *Concrete Subcontractor:* Knutson Construction Services



University of St. Thomas - Anderson Student Center. Located in the heart of the University of St. Thomas' St Paul campus, this four-story student center will become a gathering place to unite the north and south campuses establishing a new physical identity and front door for the University.

Project Team Members: *Owner:* University of St. Thomas *Architect of Record:* Opus AE Group, Inc. *Engineer of Record:* Opus AE Group, Inc. *General Contractor:* Opus Construction *Concrete Supplier:* AVR, Inc. & Affiliates

TRANSPORTATION

1ST
PLACE



Chanhassen Station, SouthWest Transit. Newly opened, Chanhassen Station expands the existing SouthWest Transit commuter bus stop in downtown Chanhassen and extends Market Street through historic downtown Chanhassen, connecting two significant areas of commerce. This four-level transit facility provides over 420 parking spaces for commuters and is accompanied by interior and exterior passenger waiting areas.

Project Team Members: *Owner:* SouthWest Transit *Architect of Record:* Hay Dobbs *Engineer of Record:* Walker Parking Consultants *General Contractor:* Shaw-Lundquist Associates *Concrete Subcontractor:* Axel Ohman, Inc. *Concrete Supplier:* Cemstone Products Company

ENTRIES



The Crosstown Project. The Minnesota Department of Transportation (MnDOT) undertook the reconstruction of the state's busiest intersection, I-35W and Crosstown Hwy. 62 in 2007 through 2010. The project incorporated nearly 200,000 cubic yards of cast-in-place concrete. The project is an enormous success in the use of cast-in-place concrete.

Project Team Members: *Owner:* MnDOT *Engineer:* MnDOT *General Contractor:* Lunda Construction Company *General Contractor:* Shafer Contracting *General Contractor:* Ames Construction *Concrete Supplier:* Aggregate Industries



The Mozaic. Located in an incredible urban location, Mozaic will bring new office and restaurant space, expanded parking options, and a public plaza to Uptown! Mozaic offers a vibrant urban setting where you can work, live, or enjoy life without needing a car.

Project Team Members: *Owner:* The Ackerberg Group *Architect of Record:* BKV Group *Engineer of Record:* RLK, Inc. *General Contractor:* Ryan Companies US *Concrete Subcontractor:* Kelleher Construction *Concrete Supplier:* AVR, Inc. & Affiliates

RESEARCH UPDATE

OPTIMUM DURABILITY STUDY

We are in the future! Back in 2005, the intent of the original MCC research project was to conduct a comprehensive study which would prepare our local industry for the increased use of recyclable pozzolan. With the passing of time and increased public perception of the concept of "sustainability," it is evident the MCC Board of Directors and the Technical Committee had the foresight to position our research for future needs.

The research for the Optimum Durability Study has been published and presented both locally and internationally over the last five years. We thought it would be informative to revisit the field phase slab-on-grades and measure how they are performing after five years of real world use. Our testing of cores recently extracted from the field study concrete slabs is currently being completed. Our goal is to meld the new data into the already published data and submit an article to Concrete International.

MCC and its members have learned a great deal from this study. It not only prepared our local industry for the increased use of recyclable pozzolans, but also has educated us on conducting meaningful research study.

OPTIMUM SLAB-ON-GRADE CONCRETE RESEARCH

MCC has embarked on a research study to explore Optimum Slab-on-Grade Concrete. The goal of the study is to develop concrete that will:

- Minimize curling
- Maximize finish ability
- Be environmentally sustainable

The study has both a laboratory and a field phase.

The trial batching was performed in the laboratory on November 8, 2011 through November 16, 2011. The proportioning of the mix designs were done using a statistical factorial design of 23 with the three independent variables being w/cm ratio, total cementitious density and percent replacement with pozzolans. The final laboratory results will be available on January 11, 2012.

The knowledge gained from the laboratory phase of the research will be used to narrow our focus for the field research. MCC is very fortunate to have Target Corporation as a partner in the field research. This research will consist of incorporating the most successful laboratory concrete into the slab-on-grade construction for the proposed Target store in Inver Grove Heights.

The research has a definite end date. We will be submitting a paper for publication to the American Concrete Institute Material Journal this year (2012). This paper will have the results of both the laboratory and field phases, along with recommendations for Optimum Slab-on-Grade Concrete.

2011 MCC SPECIAL EVENTS

GOLF OUTING A GREAT SUCCESS

142 golfers enjoyed near-perfect weather at the 2011 MCC golf outing that was held on Monday, August 29 at Mendakota Country Club. Nearly \$2,000 was raised to benefit MCC's scholarship fund. The 2012 event will be held August 27 at Mendakota Country Club.

Results:

1st Place* (49)

Curt Johnson
Joe Johnson
Scott Johnson
Ralph Forpahl

3rd Place (50)

Kevin Fischer
Todd Frantz
Scott O'Brien
Pat Voght

Longest Drive #1

Doug Stevenson

Longest Drive #16

Terry Swor

2nd Place* (49)

Dave Meyer
Gerard Moulzolf
Gary Sarna
Mark Strawn

Last Place (66)

Dan Beskar
Larry Kaiser
Eric Schlabach
Pat Carlson

Closest to the Pin #7

Bennie Berg

Closest to the Pin #17

Andy Olson

Longest Putt #8

Bennie Berg

Longest Putt #18

Mike McCabe



BIG SHOOT DRAWS BIG CROWD

MCC's Big Shoot enjoyed its largest turnout to date when 48 shooters graced the course at Wild Marsh Sporting Clays on September 29, 2011. The rain that threatened in the morning held off and any chill in the air was counteracted by the chili lunch and pork chop dinner. Just under \$1,000 was raised to benefit MCC's scholarship fund. The 2012 event will be held at Wild Marsh on September 27.

Results:

Top Gun
Neil Cooper

1st Place
Neil Cooper (77)

2nd Place
Jack Webber (77)

Middle
Bill Frazier (52)

Last
Joel Almquist (21)



Thank You Sponsors!



Further information can be found at
www.mnconcretecouncil.com or by
contacting the MCC office at 651-482-9549.

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