

Illinois Ready Mixed Concrete Association

IRMCA News

Volume 29, Number 2

Summer 2010

Introducing a new column

**CONCRETE
SUSTAINABILITY**

TELL IT LIKE IT IS

**SHERMAN ANTI-
TRUST ACT**

**DIAMOND GROUND
RCC**

FUEL EMISSIONS

**TIPS FOR SALES
PRESENTATIONS**

INCH FOR INCH

An analysis of pavement design, life-cycle cost and performance

PLUS PROJECT DETAILS

GRUNDY REDI-MIX

KIENSTRA CONCRETE PRODUCTS

NARVICK BROTHERS

PBI REDI-MIX

PRAIRIE MATERIAL

PRINCETON REDI-MIX

ROGERS READY MIX & MATERIALS

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2011 Short Course

January 10 - 11

**Par*A*Dice Hotel in
East Peoria**

**Watch for registration materials to
arrive by e-mail.**

IRMCA NEWS

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Illinois Ready Mixed Concrete Association



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*Working together to create value, teach excellence,
and produce quality.*

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George Mobarak, Vice President

Cheryl Moeller, Secretary/Treasurer

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Dick Plimpton, P.E., Consultant

Mission

To be the voice for the ready mixed concrete industry in Illinois. To promote the use of quality ready mixed concrete through innovative educational programs. To accomplish common goals as an organization that cannot be done individually.

*Watch for your
registration packet
to arrive by e-mail.*

Harvey
Hagge
Scholarship

Golf Outing

September 8, 2011
Pine Lakes Golf Club
Washington, IL



ANNOUNCEMENTS

► Staff Change

Administrative Assistant Jessica Hanover graduated from Illinois State University in May and has resigned from IRMCA to pursue a full time career in finance. She was a great asset to the association and will be missed.

► New E-mail Policy

Following the board's directive to streamline our communication with members, the staff now utilizes e-mail for almost all correspondence, including event registration. If you have not yet done so, please contact the office at 800.235.4055 or irmca@irmca.org to have your e-mail address added to the distribution list.

CONDOLENCES TO THE FAMILY AND FRIENDS OF...

...Jack Thelan of Thelan.

...Mike Winter of GRT and Big River Industries.

...Martin Ozinga, Jr. of Ozinga Brothers.

IRMCA Honored for Distinguished Achievement

The Illinois Ready Mixed Concrete Association received the ACI Distinguished Achievement Award at the American Concrete Institute's 2010 Spring Convention, held at the Sheraton Chicago on March 21-25, 2010. ACI President Florian G. Barth presented the award to IRMCA Executive Director Bruce Grohne during the opening session and awards ceremony in front of several hundred attendees.

IRMCA received the award for "their sustained advocacy of quality ready mixed concrete in Illinois through promotional events, legislative activities, educational seminars, and publications".

We congratulate the members of the Illinois Chapter of ACI for hosting this record breaking event and especially thank them for their support in nominating and then helping secure this award for IRMCA.



ACI President Florian G. Barth presents IRMCA's Distinguished Achievement Award to Executive Director Bruce Grohne.

New Board Members and Officers

The Illinois Ready Mixed Concrete Association elected its new board members and officers at the 2010 Short Course in East Peoria in January. Retiring from the board after serving 2 terms each were Dennis Probst, Mid-Illinois Concrete, and Jim Amundsen, W.R. Grace. Ken Highlander resigned in late 2009 when he sold his business.

Elected to the board were: Carol Hustedde, Quad-County Ready Mix; Kevin Jarchow, Wille Brothers; and Jim Amelung, Barnes Industrial.

Elected as officers for 2010 were: President - Justin Ozinga, Ozinga Illinois; Vice-President - George Mobarak, Rock River Ready Mix; and Secretary/Treasurer - Cheryl Moeller, Moeller Ready Mix.

Congratulations to these new board members and officers. And special thanks to the retiring board members for their dedication to the association.



Newly-elected president Justin Ozinga of Ozinga Brothers and past president Cheryl Moeller of Moeller Ready Mix.

Board / Staff Activities Update

By Bruce Grohne

The April meeting of the board was cancelled due to my knee replacement surgery and subsequent recovery period. I want to thank the IRMCA staff and the Executive Committee for keeping operations steady while I was incapacitated. Below are some of the projects being developed:

- Website - we continue to add links and downloads; you are encouraged to log on periodically and to contact JoAnn if you have ideas for the site.
- Mailings – periodically we develop special promotional mailings for targeted decision makers throughout Illinois. These mailings can be found on our website.
- Legislative Concerns – most of our “Springfield Time” is being devoted to urging legislators to vote “NO” on a proposed prevailing wage bill (HB6112)
- We are finalizing details on a joint winter meeting with the Wisconsin Ready Mixed Concrete Association (see page 6 for details).
- Promotion-wise, John Reed is making at least 2 presentations weekly to municipality decision makers as well as architects and engineers. Topics of interest are whitetopping, pervious concrete and roller compacted concrete.
- John Albinger continues to consult with members on technical issues and to be IRMCA’s point person with the Concrete First Coalition.

Short Course 2010



Over 160 IRMCA members and guests attended the 2010 IRMCA Short Course at the Par*A*Dice Hotel in East Peoria on January 11 & 12. The meeting was successful and the speakers outstanding.

On Monday evening Mike Bazzell, from the Alton Police Computer Crimes Department spoke to the dinner crowd and managed to scare the meal out of most of us. Mike shared some of his experiences utilizing websites (which he made available to all) to investigate people. Attendees were fascinated and slightly disturbed to realize how much of their personal lives can be found on the Internet. Mike's final piece of advice: if you don't want something about you found online, never put it on in the first place!

For the business sessions on Tuesday IRMCA brought in top-flight, nationally known speakers, each of whom gave attendees a frank and honest look at our industry. Rick Yelton, Editor-in-Chief of The Concrete Producer, gave us the benefit of his thoughts for the short-term future of the concrete industry. Rick was followed by Brian McCarthy, President/CEO of the Portland Cement Association, and Robert Garbini, President of the National Ready Mixed Concrete Association. These two industry leaders pulled no punches as they shared informed perspectives on the concrete industry in 2011. Attendees appreciated their frank appraisals.

Following lunch Ben Franklin, Technical Director of Headwaters Industries, brought attendees up-to-date on the US EPA's critical determination of whether or not coal-generated fly ash is a hazardous material. Expect an official determination mid-year. IDOT's Doug Dirks and Matt Mueller gave an update on their activities and then challenged producers to be proactive in identifying opportunities for concrete on IDOT projects. Mitch Mariotti, Environmental Manager for VCNA Prairie, gave an overview of the new stormwater reporting regulations, and Randy Riley, Executive Director of IL-ACPA talked briefly about Life-Cycle Analysis and how acceptance of this in the decision-making process will help in the promotion of concrete.



Speakers (clockwise from top): Matt Mueller of IDOT; Robert Garbini, president of National Ready Mixed Concrete Association; Brian McCarthy, president of Portland Cement Association.

Project Leads Available Through IRMCA Office

IRMCA receives weekly updates from Buildings Under Design (BUD), an online referral program sponsored by the National Ready Mixed Concrete Association that provides leads for local construction projects. IRMCA is able to subscribe and participate as a state affiliate of NRMCA. Construction costs for these projects are valued in excess of \$1 million.

If any member has not yet signed up to receive updates from BUD regarding major Illinois projects, simply provide IRMCA with your name, company and e-mail address. Please call or e-mail the office at 800-235-4055 or irmca@irmca.org if you are interested.

This is one more avenue members can use at NO COST to stay informed of new or updated projects in Illinois.

...Did we mention it's FREE?

Wille Brothers Company Hosts Educational Workshop and BBQ Lunch for Its Customers

An estimated 170 customers attended an education workshop and luncheon organized by Wille Brothers Company and sponsored by Lafarge North America. On March 13 participants gathered in Oak Forest to hear Brian Borowski, a Lafarge Technical Sales Engineer, and Mark Tews of Wille Brothers present information about CLSM/flowable fill, good practices for durable concrete and stamped, colored concrete and sealers.

If you would like help putting together a similar workshop for your customers, please contact the IRMCA office @ 1.800.235.4055.

NEW MEMBERS

SILVER BROTHERS, INC.

105 E. Washington Street
Hoopeston, IL 60942
Phone: 217.283.7751
Fax: 217.283.5378
Products & Services: Ready Mixed Concrete

R. RUSSELL AND ASSOCIATES

215 W. Washington St.
Pontiac, IL 61764
Phone: 815.842.1232
Fax: 815.842.2159
Products & Services: Consulting Engineering and Land Surveying Services

TERRELL MATERIALS CORPORATION

One North LaSalle Street, Suite 800
Chicago, IL 60602
Phone: 312.376.0105
Fax: 312.376.0036
Products & Services: Concrete and General Contracting, Concrete Manufacturing

RECEPTION SPONSORS

Barnes Industrial
Big River Industries
Brett Admixtures
Buzzi Unicem USA
CEMEX
Continental Cement Company
ESSROC Cement Corporation
General Resource Technology
Holcim (US), Inc.
Illinois Cement Company
Lafarge North America
Lehigh Cement Company
McNeilus Company
St. Mary's Cement
Sika
Vulcan Materials
W.R. Grace & Company

Roller Compacted Concrete at the intermodal site near Chicago.

FIRST MAJOR DIAMOND GROUND RCC PROJECT

History was made when diamond ground RCC was chosen to replace failed asphalt pavement on a stretch of US Highway 78 in Aiken, South Carolina. This project is the first major use of RCC pavement for a high-speed road. According to Andrew Johnson, Ph.D., P.E., State Pavement Engineer with SCDOT (South Carolina Department of Transportation), "RCC has a great deal of potential as an economical, rapid, and durable paving material. However, it has not provided the ride and surface texture the public expects for high volume, high speed traffic. By using grinding to achieve a smooth, quiet surface, we can use RCC in a much wider variety of situations without the added cost of a hot mix asphalt surface layer." The 4-lane, mile-long project was completed in 17 days during the summer of 2009.

Information found at Portland Cement Association's website, www.cement.org.

Prairie Material Delivers Roller Compacted Concrete

As has been documented in past newsletters, supplemented through regional seminars and hammered by national promotion initiatives, there are many in our industry who believe that Roller Compacted Concrete (RCC) will play an ever-increasing role in the paving market.

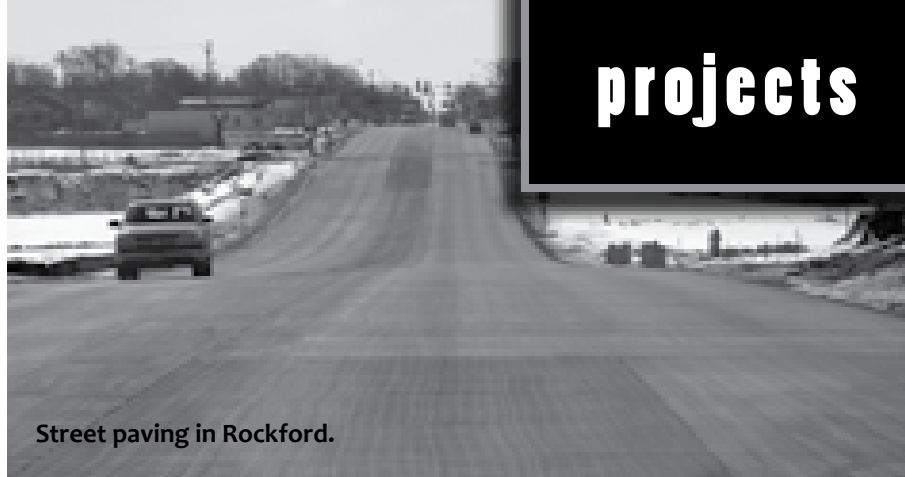
One use of RCC is found at the Chicago area intermodal site operated by CSX Transportation where strong, durable pavement is required to support cranes moving heavy equipment and materials. (Intermodal transportation is the moving of freight in a container or vehicle by way of multiple modes of transportation (rail, ship, and truck) without any handling of the freight itself when changing modes.)

CSX hired local asphalt contractor Orange Crush, LLC to oversee the placement of the RCC using traditional asphalt handling equipment. Existing asphalt was removed and a 12" crushed base was placed.

The RCC was produced by IRMCA member Prairie Material and delivered in dump trailers. The mix was placed by Orange Crush in 2 lifts of 8" each using a spreader and was then rolled. H. H. Holmes Testing Laboratories was the engineering consultant for the job.

RCC usage will increase – it is labor friendly and while not beautiful, it is very durable... ..just one more product for the ready mix producer to promote!

Rogers Ready Mix Promotes to City of Rockford



Street paving in Rockford.

Anyone who doggedly promotes ready mix concrete can tell you that it's a marathon, not a sprint. Sometimes it takes years to get our message accepted – even though we know we're right! - because many resist change, so it's gratifying to see that the City of Rockford is specifying concrete streets!

One example of new concrete pavement in Rockford is the extensive revitalization of Kishwaukee Street, a project that will continue for 5 more years. The city also chose concrete for an extension of Perry Creek Parkway (now called Spring Creek Road) in the hope that it will serve as an enticement for a new I-90 exit. Yet another example is that the city

accepted maintenance responsibilities for a private street in the new Guilford Crossing subdivision on the condition that concrete be specified.

Rockford Concrete Paving Construction was the concrete contractor for these three street projects and concrete was supplied by IRMCA member Rogers Ready Mix & Materials, Inc. Instrumental in the successful completion of these streets was the cooperation of the City of Rockford, particularly Jon Hollander, P.E., Rockford City Engineer. Congratulations to all involved.

The Sherman Anti-Trust Act

An April 28, 2010, headline read: A former executive of a Northwest Iowa ready-mix company has pled guilty in a price fixing and bid-rigging case brought by the Justice Department – a violation of the Sherman Act. Then, on May 6, 2010, in the Sioux City, IA, US District Court, a second concrete executive was charged with violating the Sherman Antitrust Act.

According to the Omaha Federal Bureau of Investigation, "[These] charges arose from an ongoing federal antitrust investigation of the ready-mix concrete industry in Iowa and its surrounding states. The investigation is being conducted by the Department of Justice Antitrust Division's Chicago Field Office, the FBI's Sioux City Resident Agency and the U. S. Department of Transportation's Office of Inspector General, with the assistance of the U.S. Attorney's Office in Sioux City, Iowa".

Ladies and Gentlemen, we must never forget the serious obligation we have to operate our businesses in accordance with the laws of our land. With first our neighboring state to the east and now to the west, the Department of Justice is demonstrating a diligent policing of our industry. Remember that companies and individuals convicted face not only stiff penalties (both fines and incarceration), but also face difficult image rebuilding from the negative publicity. Antitrust violations are a very serious matter.

We have discussed the antitrust laws at most of our meetings, and you are asked to sign an antitrust document at all organized IRMCA meetings. If you would like to learn more about antitrust laws, read The Statutory Provisions and Guidelines of the Antitrust Division, which can be found at www.justice.gov/atr/public/divisionmanual/chapter2.pdf.

Champaign Producer Provides CAM II for Pavement Base

Ready mixed concrete is the product of choice for the new Curtis Road on the west side of Champaign. That unto itself is not a surprise because most new roads in the area are also concrete. It's what is below the 8" PCC pavement that should be interesting to IRMCA members.

Early on Stark Excavating, the project contractor, asked the city engineers to consider a bid for CAM II (cement aggregate mixtures II) as an alternate to the specified asphalt base. With promotion support from the ready mix supplier, IRMCA member Prairie Material and IL-ACPA Executive Director Randy Riley, PE, the city gave approval for the alternate. Stark then submitted a successful bid for the CAM II.

The CAM II (4" thick) was delivered by Prairie in dumps, trailers and ready mix trucks, and Stark placed it using a conventional paving machine. Once curing was complete, the dowel baskets were placed and the concrete pavement was placed.



Producers – the next time you get involved with a paving project ask the engineer if he/she would consider allowing CAM II or its equivalent as a bid alternate for the base. Call IRMCA or IL-ACPA for more information.

Kienstra Concrete Products & Holiday Inn

Illinois Ready Mixed Concrete Association producer member Kienstra Concrete Products in Belleville recently supplied concrete for the new Holiday Inn in Fairview Heights. Included was the substantial parking area which was placed in full-depth concrete. The contractor for the concrete was Bruce Concrete Construction in Granite City. Congratulations to all who promoted this concrete project. Concrete was the affordable winner!



Promoters – you HAVE to convince your concrete contractors to ask the general or the owner to allow a concrete bid. Almost every time a concrete bid (even as an alternate) is allowed, the owner/developer is surprised to find that the price is comparable or better. But, they'll never know it if we don't ASK!

Grundy Redi-Mix Part of Underwater Project

As a normal course of business Bob Neville, Sales Manager for IRMCA producer member Grundy Redi-Mix in Morris, searches Bidtool on the internet for job prospects. This time he noticed a unique project involving 10,000 cubic yards of concrete, special concrete. The job entailed repairing the underside of the Dresden Island lock and dam where the limestone bedrock had eroded. The concrete was to be pumped as far as 1280 feet and placed under water. Because the job was less than 20 minutes from their plant and there was so much concrete involved Bob's interest was piqued even though Grundy Redi-Mix had never supplied this kind of concrete. He made several phone calls, got a copy of the specifications, talked to other companies who had experience with this kind of project and ultimately had all the information he needed to bid on the concrete. The Corps of Engineers was the owner, Russel Construction from Davenport, Iowa, was the contractor, and Grundy Redi-Mix was selected to supply the concrete. The 4000 PSI mix contained an anti-wash additive¹ manufactured by W. R. Grace, and 670 pounds of cementitious material. The specified W/C+P was .38 and the slump ranged from 8" to 9".

The Corps required trial mixes and an anti-wash test. 200 grams of the concrete was dropped into a 8" diameter, 6 foot tall, column filled with water. The concrete fell through the water and was collected in a basket at the bottom of the column. The basket was retrieved and the concrete weighed. The specification required that there be a maximum of 12% weight loss. Grundy's mix lost 5%. The tests were conducted by H. H. Holmes Testing Labs in Wheeling, Illinois

The job began soon after the tests were completed and test cylinders from the trial mix were broken. And, according to the fast track schedule, it had to be completed within 60 days after the

contract was signed. The concrete was pumped from shore to another pump on a barge and then pumped through the water and below the dam to where divers monitored the placement. In as much as a certain flow was necessary to completely fill the void, the divers adjusted the slump into the first pump from under water. Weekly job meetings were held to assess the progress of the job. Bob Neville said, "The Corps couldn't have been happier".

Exactly 10,000 yards of concrete were placed in 16 days and the project was completed in less than 60 days despite a 6-day delay due to rising water levels. Bob said, "It was a great job despite never having produced this kind of concrete before".

1 – An anti-wash additive is one that inhibits the effect of water in contact with concrete from washing out the fine fractions.



Dresden Island lock.

Princeton Redi-Mix Utilizes Association Resources for Windmill Project

Last October Princeton Redi-Mix contracted with White Construction to supply over 50,000 cubic yards to be used in bases for windmills. The specification required 5000 PSI at 28 days, a .40 W/C+P, air entrainment, and a maximum in place temperature of 160° F. The mix proportioning was left up to Princeton. Kyle Cain, Princeton's Manager of Quality Control designed mixes, ran test batches, and a mix was chosen and accepted.

In order to monitor the in-place temperatures White implanted thermocouples into the mass concrete bases. While the tested strength of the concrete far exceeded the design strength, the in-place concrete temperature broached and sometimes slightly exceeded the maximum of 160°F. In November the job shut down for the winter, during which time the contractor asked Princeton to consider preparing a new mix that would develop less heat.

In January Kyle attended IRMCA's Short Course and took the opportunity to get some advice. Terry Murphy, Meyer Material and Chairman of the IRMCA's Technical Committee; Jim Amundsen, W. R. Grace and Princeton's

admixture supplier; and John Albinger, IRMCA Technical Consultant, shared experiences and suggested doing some simple laboratory tests that could be used to compare the heat generation of

various mixes. Amundsen suggested using an AdiaCal box, an insulated box that holds four 4X8" cylinders, for the testing.

Because of the size of the specimens and in as much as the tests are relative, a grout mix having the same cement, pozzolan and admixture proportions as the concrete being considered is used. The rate of temperature gain is monitored, the peak temperature of each mix is recorded and the data is then downloaded and analyzed. Grace developed the software that graphically displays temperature over time. In March Grace brought two AdiaCal boxes to Princeton's lab and eight different grout mixes were made in a Hobart lab mixer. The variables were cement, fly ash and slag contents and types and dosages of admixtures. All mixes were run with a .40 W/C+P. Hot water was used to produce higher initial temperatures, 90°F+, to replicate the mix temperatures that might be experienced in hot weather.

While the purpose of the tests was to compare the ultimate temperatures of various mixes, other interesting and useful information was derived: the influence of the admixture on consistency, relative rates of hardening and relative costs. The test was concluded after 30 hours. The peak temperatures of the various mixes ranged from 100°F to 138°F and occurred in 9 to 28 hours. Princeton chose two mixes from these results, batched concrete with the same water, cement, pozzolan and admixture proportions and cast two 4'X4' boxes in which White Construction placed thermocouples. Cylinders were also cast. The peak temperatures were well below 160° and related well to the results achieved in the AdiaCal boxes.

While those concretes were being evaluated, White resumed pouring using the same mix that had been used last year. Once again peak temperature broached 160° F. Meanwhile, seven days after the 4'X4' boxes were cast, cylinders were broken and both mixes exceeded 5000 PSI. The combined data derived from all tests gave the contractor the results and confidence that they needed to switch mixes and diminish their concerns.

There is a great deal to learn from this experience: first, what can be learned from attending IRMCA functions and networking with others in the industry; second, the help that is available from a supplier; third, what the producer can learn about the product produced; fourth, the relationship you can develop with your customer; and fifth, and maybe most important, the recognition and respect you will gain.

If you have questions, concerns or problems, take advantage of the expertise available to you; call a supplier or call IRMCA. If the responses you get are inconsistent or confusing, ask your supplier and a representative of IRMCA to meet with you and discuss the issue.



Left: AdiaCal testing box

Narvick Brothers Supplies for Intermodal

Intermodal means relating to more than one mode of transport. When discussing freight, intermodal usually refers to land/sea containers as well as trucks. Intermodal centers require acres of land, reliable, modern rail service and dependable, properly maintained roads.

The property required for CenterPoint Intermodal Center was purchased from a private landowner and is located near the Illinois River between Joliet and Elwood. The location is ideal because of its proximity to major highways and interstates. The total project will encompass 3500 acres.

Chosen as concrete sub for the Joliet project was D Construction in Coal City who in turn chose IRMCA member Narvick Brothers in Morris as their concrete supplier. For transportation of the more than 240,000 yards required for the project, Narvick positioned a high speed, twin drum portable plant to load tractor-trailers and a single drum plant to load ready mix trucks.

Large pours are common, often requiring 5,000 – 7,000 cy/day; on these days Narvick utilizes up to 30 tractor-



CenterPoint Intermodal Center near Joliet.

trailers for the relatively short haul. Using stringless technology (satellite) the paver efficiently places concrete varying from 8" to 17" thick. In addition to the pavement dedicated to storing and transferring containers, new bridges and over 4 miles of new and refurbished roads are being built, all designed to make movement of rail and trucks more efficient. And for this vast amount of concrete pavement more than 950,000 feet of joints will need to be filled! Congratulations to Narvick Brothers and D Construction for their involvement in this impressive project.

PBI Redi-Mix Whitetopping Success

Michigan Street, which runs north and south through Tower Hill has been overlayed with Portland cement concrete. The general contractor for the job was A. J. Walker, Mattoon, and concrete was supplied by IRMCA member PBI Redi-Mix, Pana. The placement of approximately 1700 cubic yards was completed in four days during the last week of April and first week of May.

This concrete overlay didn't just happen. For years IL-ACPA director Randy Riley and Jim Randolph (PBI) have promoted overlays to the county and finally – a success! County officials on the job expressed great satisfaction with the project and with the help they received from Jim and Randy. And, really importantly, the concrete bid was more than competitive compared to that of the asphalt alternate!



Michigan Street in Tower Hill.



Producers - cultivate relationships with your county engineers and decision makers. Tell them about other counties choosing whitetopping. Find out if they have projects suited for concrete overlays. IL-ACPA & IRMCA can help.

Concrete Joint Sustainability Initiative Update

Twenty-six organizations have signed the “Joint Declaration of Industry Vision for a Sustainable Future” document as part of what is now known as the Concrete Joint Sustainability Initiative (CJSI). A press conference was held at World of Concrete (WOC) to update the industry press on the organization’s mission and message, including plans for the future. The presentation at WOC was made by CJSI Chairman Aris Papadapoulos of Titan America and Vice Chairman Florian G. Barth with the American Concrete Institute and detailed the “Eight Specific Societal Values Concrete Structures Contribute,” including Conserve Resources, Safer Living, Lower Cost, Protect Communities, Durability, Reduce Waste, Beauty and Connecting People. The group recently unveiled the new website at www.sustainableconcrete.org where additional information may be found.

This information was originally published in Volume 6, Issue 1 of the *Legacy*. It is reprinted here with permission from the RMC Research & Education Foundation.



Fuel Consumption and Emissions Study

The RMC Research and Education Foundation has recently released its report, *Effect of Pavement Type on Fuel Consumption and Emissions in City Driving*. This report results from tests performed at the University of Texas / Arlington. This study demonstrates that the use of concrete pavements over asphalt pavements clearly benefits the environment through decreased fuel consumption and reduced emissions. Developed along with this report was the Roadway Fuel Consumption and Emissions Calculator, a tool which will help in determining carbon footprints for a project as well as aid DOT’s consideration of the environment when making pavement selections.

These two important, free tools can be downloaded from the Foundation’s website, www.rmc-foundation.org. When on the site, please notice all the other projects that have been or will be completed by the Foundation. Over the years the Illinois Ready Mixed Concrete Association has donated several thousand dollars to the Foundation.

TIPS FOR MAKING SALES PRESENTATIONS

1. Know the audience, business and industry
2. Prepare and organize your presentation
3. Start with a hook to gain the interest of your audience
4. Establish a need and an outcome
5. Ask questions and listen to determine how to best meet the needs of your audience
6. Use visual aids
7. Emphasize the benefits, not the features
8. End with an action step (what will happen next and when)
9. Be conversational
10. Be enthusiastic

AVOID THESE PRESENTATION MISTAKES

1. Lack of focus
2. Speaking too long
3. Not knowing the audience
4. Projecting the wrong image
5. Speaker-centered
6. Too much material

Information from *Knockout Presentations* by Diane DiResta.

Tell It Like It Is

By John Albinger

Get Involved

As some of you may know, a relatively new association has been formed in the northeast part of the state. The Concrete First Coalition is an offshoot of IRMCA specifically formed to promote residential concrete pavement in Chicago and its surrounding municipalities. This enterprise is funded by local concrete producers and material suppliers and other associations. One of the reasons this coalition was formed was that the Chicago and Illinois Departments of Transportation have accused our industry of being fragmented and disorganized in our promotional efforts, especially when compared to the asphalt industry. The comparison is obviously unfair in as much as the asphalt industry is really quite simple and we, the ready mix industry, have related industries such as precast, pipe and paving, all of which do their own promotion. Another significant factor in this comparison is that asphalt is very often produced and placed by the same company, thus adding to the simplicity and success of that industry.

The other reason the Concrete First Coalition was formed is that it's the right time. First, the cost of crude oil has risen substantially and refineries have begun to install cokers which have resulted in more gasoline and less asphalt; and second, last July the Illinois Legislature enacted a public bill requiring IDOT to consider life-cycle maintenance costs over the life of the pavement.

So why am I telling you all of this? Because all of you, regardless of where you are, can partake in the benefits offered by this kind of promotion. Because you can sell concrete streets in your community for the same two reasons: the upfront material cost is comparable or less and the long term maintenance

costs are less. Even though the economics of choosing concrete over asphalt are obvious, that choice probably won't happen without your involvement. In Chicago and the surrounding suburbs the Concrete First Coalition realized that the endorsement of a local government official greatly enhances the opportunity to present the advantages of concrete streets to a commissioner or city council. So the Coalition first meets with aldermen, councilmen and mayors to familiarize them with the changes in the paving industry and the overall benefits of concrete. You can use this strategy, too, or perhaps you live in a smaller community and already have a relationship with a municipal official who is more than willing to hear how his town can save money. Don't forget that IRMCA staff can provide assistance if the village's engineer needs some help in developing the right design for the kind of traffic that is anticipated.

During the decision-making process an important issue may be: are there concrete contractors willing and able to pave a street? They need not be a paving contractor or have their own plant, so maybe this is a market that you can introduce to your customers who might be looking for more opportunities. The pavement design, mix design, type of finish and curing are normally specified, so bidding and construction are fairly simple.

Residential streets, alleys, parking lots and whitetopping are paving related opportunities that can involve substantial yardage, so why not talk to your village officials and tell your customers about opportunities they may not be aware of and, in the end, sell more concrete? It's called PROMOTION.

So why am I telling you all of this? Because all of you, regardless of where you are, can partake in the benefits offered by this kind of promotion.

Concrete Industry Sponsors Sustainability Research at MIT

By Jennifer Bedell



“During the next five years CSH will conduct \$10 million of sponsored research involving three MIT Schools.”

Concrete already has many sustainable attributes (e.g., durability, recyclability), but the industry is committed to achieving an even higher standard of sustainability. This is why Portland Cement Association (PCA) and Ready Mixed Concrete Research & Education Foundation (RMC) have collaborated with Massachusetts Institute of Technology (MIT) to establish its Concrete Sustainability Hub (CSH), where researchers are working to precipitate advancements in cement and concrete production that will lessen its environmental impact. “The concrete industry has the honor of producing the world’s most favored building material, but this honor comes with a responsibility for the industry to minimize its ecological footprint,” said Julie Garbini, executive director of RMC.

Beginning July 1 of this year Hamlin Jennings will be CSH’s executive director. “Hamlin Jennings is widely recognized as a pre-eminent researcher and leader in the field of cement chemistry. His research experience and intellectual stature, as well as his own passion for the goals of the Concrete Sustainability Hub make him the perfect person to take on leadership of this important new initiative. We are delighted he has agreed to join us at MIT,” said Professor Andrew Whittle, head of the MIT Department of Civil and Environmental Engineering.

Jennings left a tenured faculty position at Northwestern University to accept the position at MIT. In addition to his responsibilities with CSH, Jennings will hold the position of adjunct professor in MIT’s Department of Civil and Environmental Engineering. Said Jennings, “MIT

has assembled an extraordinarily gifted team of scientists and engineers with the express objective of transforming our understanding of a complete materials science approach to cement and concrete. While this is complex and ambitious, it will lead to new strategies for addressing global issues, such as improving durability and other properties while reducing the carbon and energy footprints. My goals and those of the CSH are so well aligned that even though it means leaving the stimulating environment of Northwestern University, it is an opportunity and an honor that I cannot refuse.”

During the next five years CSH will conduct \$10 million of sponsored research involving three MIT Schools: School of Engineering, School of Architecture and Sloan School of Management. Initial research focus will be in the areas of concrete materials science, building technology and the econometrics of sustainable development.

Already two projects are in progress, one in materials science and the other in building technology. In materials science the Liquid Stone Team includes researchers from the departments of civil and environmental engineering; materials science and engineering; and nuclear science and engineering. They are studying the basic molecular structure of cement and exploring the possibility of either exchanging one chemical element for another to reduce green house gas emissions or designing concrete that is stronger yet requires less material. In building technology the project is called Edge of Concrete, and the researchers are from the departments of architecture; civil and environmental engineering; and mechanical engineering. This team is developing a basis for quantifying the lifetime performance of concrete structures and pavements to identify methods for improving concrete’s performance.

Some information in this article was found in “Hamlin Jennings, Professor from Northwestern University, will Lead MIT’s CSH” by Denise Brehm.

INCH FOR INCH...

By Randell C. Riley, P.E.



In the competitive climate in which pavement type selection decisions are made, many factors are considered. The concrete industry has always claimed the life-cycle cost advantage. We had to. We cost too much up front due to the safety factors imposed in concrete pavement design compared to asphalt pavement design. However, in the parking lot market rarely do specifiers, architects and, frankly, engineers really care about life-cycle costs. It is all about that first dollar spent.

Recent changes in the economics of concrete pavement relative to asphalt have led many to believe we are suddenly more first cost competitive, but let me show you that concrete has always been first cost competitive if you were designing the sections to actually carry roughly the same traffic and get the same life.

Let's take a typical Illinois parking lot pavement section.

How many of you have routinely seen a section of 3-inches of bituminous surface on 6-inches of granular material? How many of you have seen even less? How many inches of concrete would it take compared to what the engineers and architects frequently pull out of their mysterious design manual? And why? Let's start with the why.

Most engineers and architects start one of two places in Illinois: either Chapter 54 of Illinois Department of Transportation's (IDOT) *Bureau of Design and Environment Manual* (BDE Manual) for highways or Chapter 37 of IDOT's *Bureau of Local Roads Manual* (BLR Manual). Are these really appropriate for parking lots? Probably not! IDOT designs for controlling vehicles that are principally trucks – and usually a lot more than we are inclined to see on a typical parking lot.

For example, both of these resources start at bottom traffic levels with about 12 percent truck traffic. If you know what you are doing there are provisions to go below this level, but even then the minimum thickness for concrete from the design charts is about 7.5 inches in the *BDE Manual* and 6.5 inches in the *BLR Manual* for soil conditions typical of parking lot construction. Both procedures are mechanistically based and incorporate extremely high levels of reliability. Both also imply that granular subbase is optional at traffic levels typical of parking lots, but explain optional to most engineers and the word required seems to take its place.

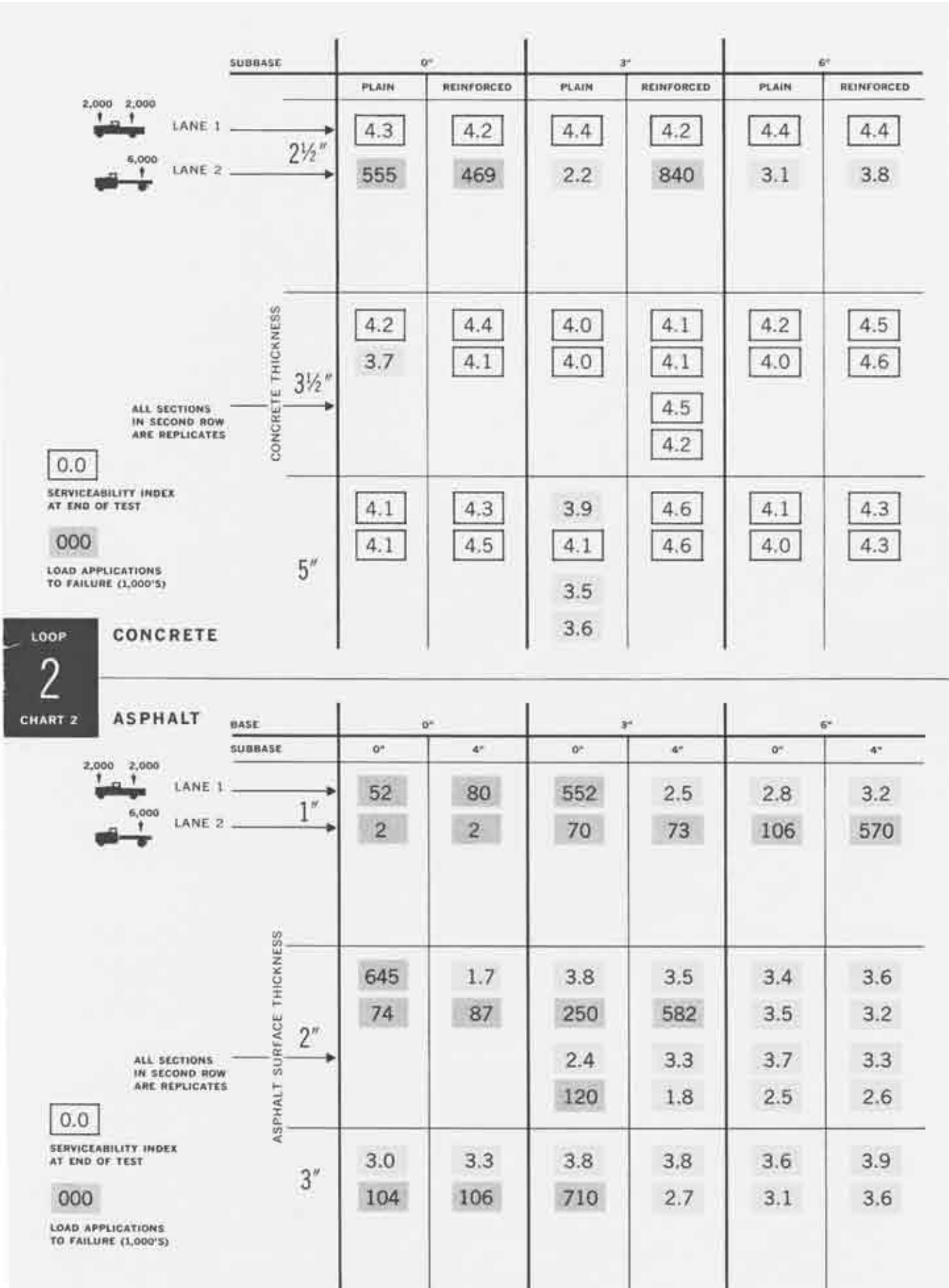
What about the asphalt designs? What are the minimums there? The *BLR Manual* says 3 inches on 8 inches of stone is adequate. So how do you actually compare these competing sections? Clearly, IDOT methods are not the answer!

There are a number of competing design systems for concrete pavement in this design niche. Many of you are familiar with the Concrete Pavement Analyst (CPA) software available from National Ready Mixed Concrete Association. It has been discussed on several occasions at the IRMCA annual short course, and seminars have been conducted on its use by your association. CPA is largely based on a variation of the results of the road test conducted by the American Association of State Highway Officials (AASHO). I will not go into detail here, but CPA uses a variation on the structural coefficient approach to assign a structural coefficient to concrete.

However, since the AASHO Road Test was conducted right here in Illinois, why not use the data, the methods and the equations laid out in the 1993 *Guide for Design of Pavement Structures*? If it is meaningful anywhere, it should be here in Illinois.

First, a little history. The engineers at the Road Test conducted testing on sections of both asphalt and concrete pavements under the same traffic loadings at the test site west of Ottawa, Illinois. Interestingly, some of these sections included loadings restricted to automobiles and light trucks; loads more typical of convenience store and mall parking lots. The concrete thicknesses on these sections ranged from 2.5 inches of concrete up to 5 inches. How did they fare? One of my personal favorites, an out of print publication titled *Pavement Performance in the National Road Test*, produced by Portland Cement Association in 1962 offers some insight. (I have a pdf if you are interested.)

Figure 1: Final performance of test section in main experiments



The tables in *Figure 1* demonstrate how the pavement sections performed. The tables are a little busy, but they are jam-packed with exciting information for pavement geeks interested in promoting concrete pavements for parking lot applications.

During the Road Test, vehicles ran over the traffic loops until the loops had received roughly 1,114,000 axle load repetitions or the pavement section had failed. Periodically, engineers at the Test Road would evaluate the serviceability of the sections on a 5-point scale, five being a smooth pavement in new condition and 1.5 having been determined to be failure of a section in need of serious repair. The vehicles ran in adjacent lanes restricting the specific loads to those lanes. In our table you will see that one lane operated with 2,000 lb. axle loads, the other with 6,000 lb. axle loads. By conducting the test in this manner it was possible to compare performance of different loads to one another while simultaneously evaluating the affect of those loads on different pavement sections. The asphalt and concrete pavements of different sections received identical loadings under identical traffic for roughly two years.

The tables depict the serviceability after 1M plus axle loads shown as a grade ranging from 1.7 to 4.4. If the section failed (i.e., reached a serviceability of 1.5), the number of axle-load repetitions in thousands is shown. In addition, various subbase thicknesses were evaluated for both asphalt and concrete. For concrete sections, mesh-reinforcement was also evaluated as that was popular at the time of the test. (Mesh reinforcement turned out to not make a difference, but that is perhaps an article for another time. Needless to say, we no longer use mesh in Illinois.)

Let's work left to right for the concrete section of Loop 2 and the 2 ½-inch concrete pavements. Yes, they tested them that thin. Serviceability of the pavement sections for 2,000 lb. axle loads similar to that of an automobile were in very good condition, i.e., serviceability greater than 4.0 after 1M plus repetitions. This was regardless of whether the pavement was placed directly on Illinois' marginal soils or with 3 inches or 6 inches of stone subbase somewhat similar to today's dense-graded granular CA-6 with a fairly high amount of fine material.

The 6,000 lb. axle loads pounded the section a little harder, but even here the 2 ½-inch concrete section still carried about 469,000+/- axle load repetitions. The stone helped some on these very thin sections.

What about the asphalt sections? They were tested under the same traffic and same weather conditions. Indeed, these were loops so the trucks ran on concrete on one side and asphalt on the other. Looking at the table we find some interesting comparisons.

From top to bottom on the asphalt section of the table it shows the thickness of the asphalt surface. The base and subbase as defined at the Road Test are a stone base and sand-gravel subbase; in simple terms, granular material. For 3-inches of asphalt on dirt carrying the rough equivalent of automobile traffic the serviceability of the asphalt was 3.0 at the end of the test. This compared to 4.3 for the 2 ½-inch concrete section under identical conditions. A fluke, right? How about the 6,000 lb. axle loads?

Careful inspection of the 6,000 lb. data indicates that for the same conditions described in the previous paragraph, the 2 ½-inch concrete pavements carried greater than five times the number of repetitions to failure as that of the 3-inch asphalt section. Checking the tables carefully you will find that, in general, the concrete outlasted the asphalt, inch for inch! So, back to the original question: how would the sections compare using IDOT standards that an architect or engineer might pull off of the shelf? *Figure 2* shows the answer. The concrete sections, either the minimum that we normally recommend for parking lot section drives with low truck traffic or the IDOT section, will carry significantly more traffic than the minimum IDOT bituminous section.

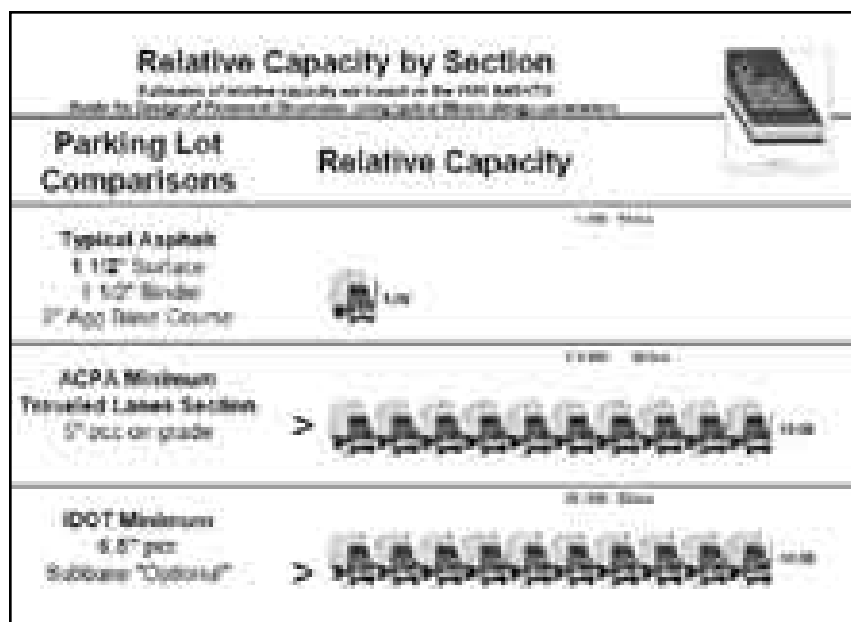


Figure 2

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