ICMA E-NEWS

A Publication of the Indiana Concrete Masonry Association
Spring Issue May 2007

www.indianablock.org

2007 Ball State Student Awards

Honorable Mentions: Ann Ross, Katie Felver, Nick Satterfield and Josh Holowell

Awards: Jared Burt, Nick Respecki, Andrew McMurray, Megan Mccormick and Becca Staley

Ball State University hosted the 39th ICMA Student Design Awards Competition April 25, 2007. Eighty students participated in the ICMA project. Nine students were awarded and received scholarships from ICMA. Tony Costello, retired professor from Ball State University, chaired the jury and presented the accolades.

Below are pictures of the students working with less than a week before the judging started and the jurors viewing the projects. The project for 2007 was to design a new pair of rest stop buildings for the Anderson, Indiana exits on I-65. The students were challenged on designing a rest stop/visitors center on a very tight site. ICMA salutes Ball State University and its students for their accomplishments.

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AIA National Board Member

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SOM-NYC

Shai Yeshayahu
Southern Illinois University

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Technical Education
Tom Morris, Hydraulic Press Brick

Calendar:

Spring Meeting
Belterra Casino
June 18-19, 2007

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Questions about Efflorescence

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Every year we receive numerous phone calls in the spring and fall months concerning efflorescence. The questions are usually the same as are the answers to these questions. We have asked, Josh Naragon Executive Director of ICMA, if we could write an article in the ICMA quarterly news letter about this topic and he has graciously granted our wish.

We are generally asked the following questions and give the following answers:

What is Efflorescence?

It is a natural phenomenon that may or may not occur with Portland cement based products. As Portland cement comes into contact with water, a chemical reaction called hydration begins to take place. A by-product of this reaction is the formation of a salt called calcium hydroxide, which if it could be collected at this point in the hydration process would be a white powdery substance. Normally this by-product stays in and around all of the particles in the concrete masonry unit or mortar matrix, and it is never seen. However, in the presence of moisture at the right temperature conditions, these salts, will dissolve and come to the surface of the concrete masonry wall. This phenomenon happens when water moves from the exterior surface of the concrete masonry wall to the interior and then out again.

When the water penetrates into the cementitious matrix of the concrete masonry unit or the mortar, it may dissolve the salts and place them into solution. As the evaporative condition takes place, these salts are carried to the surface where the water evaporates, leaving the salts or a white substance on the surface. So why doesn't this occur all of the time after any rain, or when sprinklers continually wet the walls? The reason is, that calcium hydroxide is highly soluble in cold water only (50 degrees +/- 5 degrees), and this accounts for why there is considerably more efflorescence after rains that occur during the Spring and Fall months, or a warmer winter month.

How can efflorescence be removed?

It can be easily washed off within a day or two after its appearance, because of its high solubility in water. However, if it is left on the surface for a period much longer than a day or two, it begins to carbonate. Calcium hydroxide reacts with the carbon dioxide in the atmosphere and changes to a calcium carbonate. Calcium carbonate is not soluble in water and must then be removed with a cleaning solution that is formulated for use with the wall material or weather away naturally.

If a concrete masonry wall is going to be washed off within a day or two after efflorescence first appears and the weather is still cold, the following precautions should be taken. Use warm water to wash the concrete masonry wall surface and try to do this during the warmest part of the day, when the air and wall temperature is above 55 degrees. This procedure for cold weather cleaning will provide assurance that the residual calcium hydroxide that is left in the concrete masonry wall will not be dissolved and promote additional efflorescence.

Are new concrete masonry walls more susceptible to efflorescence than older masonry walls?

The answer is yes. New concrete masonry walls are more porous initially than older walls. The more porous a wall is, the easier moisture can enter and leave. This changes as time goes on, and the surface of these walls become carbonated. Calcium carbonate provides a protection against the penetration of water into the wall surface. New concrete masonry work has not had the time to build up this protective coating and it is more vulnerable to intrusion of water.

What is the best way to prevent efflorescence?

The answer is, to try to prevent as much moisture penetration as possible in the concrete masonry walls. These preventative measures are best incorporated during the design and construction processes of the concrete masonry wall.

2007 ICMA Annual Meeting

ICMA hosted the 2007 Annual Meeting at the Westin Hotel, downtown Indianapolis. The program was full of educational sessions including an update from Tony Costello on Ball State University. Tony, with the help of ICMA applied for a grant with the NCMA to fund a new class at Ball State. The class will be documented on video tape and edited to use at other colleges to show how to incorporate a new masonry class into their curriculum. Tom Morris from Hydraulic Press Brick talked about thermal resistance utilizing SmartWall Systems using high performance lightweight concrete masonry. Paul Lushin from Lushin and Associates, Inc. lead the membership through a sales workshop and Steven Ko from PCA gave us an update on the economy.


Tony Costello

Tom Morris


Paul Lushin


Steven Ko

Ball State University Landscape Design

Ball State University's Landscape Architectural Department designed and built a Japanese garden area including an SRW retaining wall. Students an d faculty worked through the summer to complete the project. This garden lies behind the architectural building as a place to reflect and rest during the fast-paced schedule of college life.

Japanese Garden

Japanese Garden

State Fair Project

State Fair Project

The Landscape Architectural Department also designs and builds the Ball State Patio showcased at the Indiana State Fair. Thousands of people walk through the patio each year exposing them to our products.

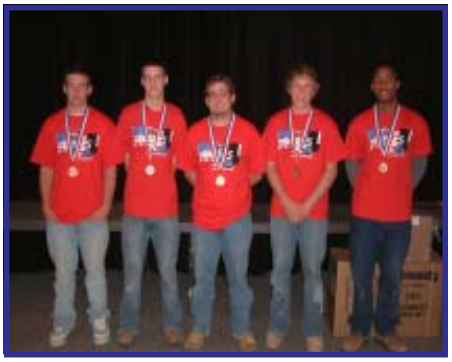
Indiana Skills Competition

ICMA hosted the Indiana State Skills Competition at the Walker Career Center in Indianapolis, IN. Juniors and Seniors competed in the annual state competition to qualify to go to the nationals. With help from Eston Hathaway of Hagerman Construction, Wheeler Corporation, ESSROC, Air Worx Construction Equipment & Supply, and Fred Palmer of the Mason Contractors, the contest went off without a hitch.

Two professional tenders took care of the students, and I must say, these where the best help I have ever had. Special thanks to Tracey Eads and Scott Jackson. If you would like to be a part of the competition next year call me, Josh Naragon, Executive Director ICMA at 937-599-3682.

2007 Indiana Skills Competition

Left to right:
Tracey Eads, Scott Jackson,
Eston Hathaway



First Place: John Getty (middle)
Second Place: Kade Oxley (middle left)
Third Place: Matt Wenger (middle right)
Fourth Place: Lucas McCulloch (left)
Fifth Place: Kelvin Kelly (right)