

The Voice

January 2012

Voice



THE VOICE OF TENNESSEE'S ENGINEERING COMPANIES

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Pervious Concrete: Stacking functions to solve stormwater management challenges

by Alan Sparkman, Executive Director
Tennessee Concrete Association

Stormwater management plays a key role in nearly every construction project and the bar for stormwater compliance continues to move higher in most municipalities.



Alan Sparkman

Pervious concrete is one of several Low Impact Development (LID) solutions that focus on infiltrating water back into the native soil rather than concentrating and collecting flows to be moved offsite. Many LID solutions offer good solutions for increasing both infiltration and water quality, but pervious concrete offers the unique ability to 'stack' additional functions in the same space.

A recent project in the Memphis area took advantage of pervious concrete's ability to stack functions while providing multiple benefits. This project involved two residential hospice care facilities constructed on adjoining lots. For both buildings, pervious concrete was utilized for 100% of the parking lot, thus eliminating runoff from the entire parking area (about 2,500 SF for each lot) while the six inch gravel layer provided detention storage to allow the water to infiltrate into the native soil. Pervious concrete

The use of pervious concrete – on a parking lot, for example – can help with stormwater compliance and offer additional benefits.

stacked four important functions in the same physical area for this project.

Function 1: Parking Lot Pavement

Projects such as this prove that pervious concrete can be used as the primary pavement for the parking area. Pervious concrete pavements have demonstrated the ability to handle typical parking lot loads in numerous projects across Tennessee and the entire U.S. Properly designed pervious pavements can also handle some truck traffic and projects are beginning to utilize pervious pavements in such areas.

Function 2: Reduce Stormwater Runoff

Pavement constructed with pervious concrete will produce little, if any, stormwater runoff and most local regulations recognize this by excluding areas paved with pervious concrete from quantity calculations. Reducing the quantity of stormwater to be treated will reduce the cost for quality treatments and in some areas it will also reduce annual taxes imposed on impervious areas.

(continued on page 2)



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Ban procrastination! Let's reach our goals

by Mike Pohlman, PE
 President, ACEC of Tennessee

Happy New Year!

Now that the holidays are over, it's time to settle in, get to work, and take a minute to reflect on what you wanted to accomplish in 2011, but didn't quite get there. Maybe it was



Mike Pohlman

completing an employee evaluation, wrapping up a report, calling a troubled client or customer, or actually reviewing your past year's goals and performing a self-evaluation of how you did. All of these are seemingly simple tasks; however, we seem to be

able to find reasons that justify not quite getting them done.

I am reviewing my 2011-2012 goals for ACEC of Tennessee; frankly, I am thankful that I have

another six months to work on them. We have come far in a few areas, but are stuck on hold in others. Among the areas that still need work are a big push for successfully recruiting new member firms; more involvement from existing member firms both at the chapter and state levels; and touting our engineering accomplishments. With a little prodding, I'm confident that our committee chairs will make significant progress in these areas. Thank you all in advance.

Now for my New Year's wish and hope for us all. Here's to the *elimination of procrastination* from our workplaces in 2012! May we all stay focused on our daily tasks and responsibilities while making timely, good decisions that help our companies and communities get better every day.

If we do this, the result will be a successful and prosperous 2012.

Pervious concrete

(continued from page 1)

Function Three: Provide Detention Storage

The stone base beneath the pervious concrete can be utilized to provide detention storage for rain events, provided that local stormwater regulations allow such use. This is accomplished by utilizing the void space in the stone – usually about 40% in crushed materials. All pervious pavements in our climate should have at least six inches of free-draining stone. The thickness of the stone layer can be increased as project-specific detention requirements dictate.

Function Four: Infiltration

The native soil beneath the pervious pavement system can be utilized to infiltrate much or all of the stormwater that enters the system. Even relatively slow soils can infiltrate significant amounts of water in a 24 hour period – for sites that need additional time to infiltrate large volumes of water it is common to increase the thickness of the stone layer to provide more storage volume.

In addition to these four benefits, pervious concrete also provides a durable pavement that is low-maintenance (not no-maintenance!) and handicap accessible. Projects seeking to earn LEED points will also benefit from the use of pervious concrete as it can strongly influence multiple points related to site runoff, water conservation, and regional materials. Plus, pervious concrete can often provide these multiple benefits

Qualifications

Based Selection

Price is still a factor in QBS; after a qualified firm is identified, scope and fee are negotiated.

while lowering overall project expenditures – that's a powerful argument for 'stacking' pervious concrete on your next project.

MEMBER NEWS

- Rob Barrick, PE, president and CEO, Smith Seckman Reid, has been named a member of the Board of Advisors of Ryan Search & Consulting, an ACEC of Tennessee Partner member.
- Claire Barnett, PE, with the Memphis office of EnSafe, has been named to the Society of American Military Engineers (SAME) Class of 2012 "Academy of Fellows" for her outstanding service to the organization and contributions to the engineering profession.
- More impressive news! In December, we recognized the ACEC of Tennessee members with offices in Tennessee that are ranked among the Top 30 firms in Engineering News Record's annual Top 500 rankings. This month, we recognized member firms ranked among the Top 30 to 75 firms by ENR:

- 31 - Michael Baker Corporation/LPA Group
- 32 - MACTEC Engineering & Consulting, Inc.
- 38 - Terracon Consultants, Inc.
- 40 - Kimley-Horn and Associates, Inc.
- 47 - Brown and Caldwell
- 56 - TranSystems Corporation
- 70 - Wilbur Smith Associates

Judges announced for awards program

They are wise, talented and experienced. They are the highly-qualified members of the independent panel that will meet in February to judge the projects entered in the 2012 *Engineering Excellence Awards* (EEA) competition and determine the winners.

The seven people serving as EEA judges are **Hal Balthrop, PE**, assistant director, Metropolitan Nashville Water Services; **Vanessa Bateman, PG, PE**, chief, Geology Section - Nashville District, US Army Corps of Engineers; **Paula Flowers**, manager of independent oversight, Oak Ridge National Laboratory; **J. T. Malasri, PE**, residential design engineer, Memphis Light, Gas & Water; **Bob Oglesby, AIA**, Tennessee State Architect; **Dayakar Penumadu, PhD**, head of Civil and Environmental Engineering Department, University of Tennessee - Knoxville; and **Scott Turnbow**, senior manager, Tennessee Valley Authority.

"We are very grateful for the service of our judges," said awards program chair Greg Brubaker, PE, K.S. Ware & Associates. "It requires a full day of their time to review all the entry notebooks and panels and then decide the winners."

The winners will be announced on the evening of Tuesday, March 6, during the awards event at the Franklin Marriott Cool Springs. A Grand Iris Award will be presented to the overall winner of the competition. A Grand Award will be presented in each entry category at the discretion of the judges. Invitations will be mailed in early February noted awards program co-chair Brad Winkler, PE, TranSystems, Inc.

ACEC's advocacy agenda made progress in 2011

ACEC achieved some notable advocacy successes in 2011. The Council secured passage of legislation to defeat a regulation that would have dramatically expanded IRS Form 1099 filing requirements. One firm reported that the regulation would have increased its 1099 filings from 30 to 2,500 per year.

ACEC led the lobbying effort of a broad U.S. Chamber of Commerce coalition that won repeal of the 3 percent withholding mandate, which would have required federal, state and local clients to withhold 3 percent of payments owed for services provided.

Despite a challenging funding environment, the Council helped to maintain funding for federal surface transportation programs and turned back efforts to reduce funding by over 30 percent in the SAFETEA LU reauthorization bill. Both Congressional chambers are moving forward on a long-term bill, which bodes well for putting our industry back to work improving the nation's transportation system.

The Council is working on a number of other legislative priorities: passage of aviation and water bills, a bipartisan energy program, various tax ini-

2012 EEA Award Entrants

(arranged by project title)

Beaver Creek Waste Water Treatment Facility Expansion, Powell, TN: completed by Jacobs Engineering Group for Hallsdale-Powell Utility District;

Boyd Bridge Structural Analysis, Knoxville, TN: completed by Neel-Schaffer, Inc. for Tennessee Department of Transportation;

Century-Old Brownfield Site Remediation, Chattanooga, TN: completed by EnSafe Inc. for Brightbridge, Inc.;

Cool Springs Area ITS Expansion Project, Franklin, TN: completed by RPM Transportation Consultants for the City of Franklin;

Davidson Street Sewer Collapse, Sinkhole Stabilization, Nashville, TN: completed by K.S. Ware & Associates, LLC for Nashville/Davidson County Metro Water Services;

Dry Creek Waste Water Treatment Plant Flood Recovery, Nashville, TN: completed by Brown and Caldwell for Nashville/Davidson County Metro Water Services;

First Creek Channel Improvements, Knoxville, TN: completed by Vaughn & Melton Consulting Engineers, Inc. for the City of Knoxville;

Henry County Parallel Taxiway Relocation, Paris, TN: completed by Garver for Henry County Airport;

I-40@SR66 Diverging Diamond Interchange, Sevierville, TN: completed by AECOM for Tennessee Department of Transportation Project Planning Division;

John J. Duncan Jr. Knoxville Station Transit Center, Knoxville, TN: completed by Wilbur Smith Associates for City of Knoxville;

K. R. Harrington Flood Recovery Effort, Nashville, TN: completed by Gresham Smith and Partners for Nashville/Davidson County Metro Water Services;

Knoxville Utilities Board Lower Third Creek Wastewater Storage Facility, Knoxville, TN: completed by Gresham Smith and Partners for Knoxville Utilities Board;

Maryville Regional Wastewater Treatment Plant, Maryville, TN: completed by J. R. Wauford & Company Consulting Engineers, Inc. for City of Maryville;

Memphis Skate Park, Memphis, TN: completed by Askew Hargraves Harcourt & Associates, Inc. for City of Memphis;

REOstone Levee Reconstruction, Nashville, TN: completed by Gresham Smith and Partners for Rogers Group;

Repair Runway 05-233-Fairchild Air Force Base, Spokane, WA: completed by Atkins North America, Inc. for Fairchild Air Force Base;

Richland Creek Embankment Failure Investigation, Nashville, TN: completed by K. S. Ware & Associates, LLC/Hart Freeland Roberts, Inc. for Nashville/Davidson County Metro Water Services;

Rock Stabilization at Ocoee No. 2 Flume, Ocoee, TN: completed by ARCADIS for Tennessee Valley Authority;

SR 7 Reconstruction (CNJ318), Santa Fe, Maury Co., TN: completed by Florence & Hutcheson, Inc. for Tennessee Department of Transportation;

TDOT Local Government Guidelines Update, Nashville, TN: completed by AECOM for Tennessee Department of Transportation;

U2 Concert Stage at Vanderbilt Stadium, Nashville, TN: completed by TTL, Inc. for Vanderbilt University;

Wastewater Process Design, NREL Ethanol Model, Golden, CO: completed by Brown and Caldwell for National Renewable Energy Laboratory.

Thank you, EEA Sponsors

(as of December 20)

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tiatives, and legislation to provide liability protection for engineering firms responding to disaster events. ACEC remains on offense to protect the industry.

CALENDAR

JANUARY

13

EEA Entry Notebooks
& Panels Due

JANUARY

17

Environment & Energy
Committee

1:30 p.m., TDEC
Office

Information:

Amy Spann at
aspann@ensafe.com

JANUARY

20

ACEC Scholarship
Applications Due

FEBRUARY

19-25

Engineers' Week

MARCH

5

Legislative Reception
Sheraton Nashville
Downtown

6:00 p.m. to 7:30 p.m.

MARCH

6

Engineers' Day
on the Hill

State Capitol, Nashville
9:00 a.m. to 1:30 p.m.

Engineering Excellence
Awards Banquet
Franklin Marriott
Cool Springs

6:00 p.m. to 9:00 p.m.

APRIL

15-18

ACEC Annual
Convention &
Legislative Summit
Washington, D.C.

Tennessee Engineering Center
800 Fort Negley Boulevard
Nashville, TN 37203

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JANUARY 2012

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Welcome, New Partner Program Member

ACEC Business Insurance Trust

701 Market St., Ste. 1100
St. Louis, MO 63101
800-338-1391
www.acecbit.com

Contact:

Michael Janes
Michael.l.janes@marsh.com

The ACEC Business Insurance Trust (BIT) provides the only business insurance program endorsed by ACEC National. In addition to providing business insurance, the BIT also provides professional liability and management liability insurance to members of ACEC.

FROM THE EXECUTIVE DIRECTOR

How can you contribute to ACEC's success in 2012?

by Candy Toler Executive Director,
ACEC of Tennessee

In the December newsletter, I reported on what ACEC of Tennessee did for member engineering companies in 2011. This month, I encourage you to take an active role in supporting your profession in 2012. Participate in what I call "March Madness" – the Legislative Reception on March 5, Engineers' Day on the Hill on March 6, and the *Engineering Excellence Awards* gala that evening.



Candy Toler

Legislators want to hear from you

The General Assembly will reconvene on January 10 with some major issues to face in this election year, including lottery scholarships, redistricting, and taxes among them. The state's open meetings law (aka "the sunshine law") will also be hotly debated. Last session we pushed back efforts to limit the state's ability to outsource work to the private sector. This and

many more proposals that will affect public health and safety will be considered in the second year of the 107th General Assembly.

Your elected representatives appreciate the opportunity to hear from you. The ACEC Nashville Chapter invites you to attend the *Legislative Reception on March 5*, the evening before E-Day on the Hill. It begins at 6:00 pm at a hotel near the Capitol.

On the morning of March 6, participate in E-Day. The event, which drew over 80 participants last year, offers engineers the opportunity to promote the value that engineers bring to every community across Tennessee and address issues that impact public safety and the engineering profession.

To sign up, you may use the form on the website (<http://www.acectn.org/Events.htm>) or send an email to me (ctoler@tnc.org) that you plan to participate. Please respond no later than February 27.

Contribute to ACEC's success in 2012. Join engineers from across the state on March 5 and 6 to take part in these events that are important to the engineering profession in Tennessee.