

# THE CONNECTION

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## F&R Crowns Winners of the 2010 Engineering Excellence Awards

In late January, F&R staged its 3rd annual Engineering Excellence Awards.

Tokarz, Owen Carroll, and Mike Mauro.

By completing this project quickly, the owner was able to avoid being subject to newly promulgated storm water rules that would have added tens of thousands of dollars to the project's cost.

The goal of these awards is to recognize those projects that exemplify not only the complexity of projects on which F&R's professionals work, but also those professionals that provide the kind of service and attention to detail that our clients rightfully demand.



The key Baltimore office participants on this project were Brian Smith, Himadri Shah, and Roland Jones.

Each year, three winners are chosen (one from each of three different revenue groups). This year's winners were:

### Richmond, VA—Route 895 Airport Connector Road Project

This was a huge project with tight deadlines which required the use of conventional testing methods in unconventional ways.

### Fredericksburg, VA — University of Mary Washington Roadway Retaining Wall Project

This project had all of the elements that we like to see in a submittal.

But what really made this project stand out was the fact that because of the exemplary work performed by F&R, the client was able to convince the state to substitute its standard testing specifications for those put forward by F&R.

There were deadlines that had to be met, engineering challenges that needed to be overcome, and pronounced client satisfaction at the end of the project.

The key Richmond office participants on this project were Paul Burch, Nathan Schwarz, Tim

### Baltimore, MD — Howard Community College Parking Garage #2 Project

With this project, not only did the Baltimore office have to perform soup to nuts geotechnical and materials testing services, but it had to do so on a highly accelerated schedule.

This was essentially a repair project, but one that required significant engineering know-how to address, and one that if ignored, or fixed improperly, could have led to either injury or loss of a road that is used by emergency and delivery vehicles.

The key Fredericksburg office participants on this project were David Gibbs and Yuri Chandler.

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## Shrink Swell Soils — An Investigation

Also known as expansive soils and expansive clays, shrink swell soils contain clay particles that are capable of absorbing moisture. When moisture is absorbed, the soil increases in volume (swells). When moisture is lost, the soil decreases in volume (shrinks).

### Where is it?

Expansive soils are present in every state across America and around the world.

### What harm can it do?

By applying pressure during expansion and settlement during contraction, the soils can cause severe damage, including: building movement and cracking of foundations, floors, and walls. This cycle of expansion and contraction places repetitive stresses on the structure.

### How do you know if there are expansive soils present?

Vice President for Engineering Bill Edelen, PE has received the A. Ivan Johnson Outstanding Achievement Award from ASTM International's Committee D18 on Soil and Rock.

The Executive Subcommittee of D18 unanimously approved this award at their most recent meeting.

This recognition was given to Mr. Edelen for his numerous contributions in the work of Committee D18 over many years.

"On behalf of the entire F&R family, I want to congratulate Bill for this important award," said F&R President Sam Kirby,

Generally, local building officials and geotechnical engineers can determine if expansive soils are typically present in the area. A Geotechnical



official will determine if a soil investigation is required before or when applying for a building permit. Most of this information is available on the local building department's official website. During the soil investigation an experienced geotechnical engineer will determine if expansive soils are present. It would also be recommended to perform shrink swell soil testing anytime there is visible structural damage to an existing structure.

### What can be done for a site that has expansive soils?

engineer can examine and visually classify soil samples extracted from the site. Soil samples that exhibit shrink swell characteristics can be further evaluated through laboratory testing.

### When should the testing be performed?

Generally the local building

Geotechnical engineers can provide numerous low cost options for soil remediation or foundation designs that will resist the effects of expansive soils. These recommendations provide relatively inexpensive insurance against future structural damage caused by expansive soils.

## Bill Edelen Wins ASTM Outstanding Achievement Award



ests of the construction engineering industry."

ASTM International develops international standards for materials, products, systems and services used in construction, manufacturing and transportation.

Formed in 1937, ASTM's Committee D18 focuses exclusively on the testing of soil, rock and related materials and sets standards that play a preeminent role in all aspects important to the effective standardization for the geotechnical and geoenvironmental industries.

PE. "I am exceptionally happy to see him receive the recognition he deserves for his efforts to further and benefit the inter-