

## Long-Term Transportation Planning in Northern Virginia

Monica Backmon, Executive Director, Northern Virginia Transportation Authority (NVTA)

With an ever-growing population and increasing commuter traffic, the Northern Virginia region – like many other thriving urban areas – must find ways to enhance and maintain its current transportation infrastructure, while at the same time facing the constant challenge of determining how these much-needed projects will be funded – and ultimately constructed. Join us as ASCE NSC kicks off the New Year with a presentation by Monica Backmon, Executive Director of the [Northern Virginia Transportation Authority](#), discusses long-range planning for future transportation projects in Northern Virginia. NVTA oversees nearly \$300 million annually in transportation funding in Northern Virginia and is responsible for long range planning and regional project coordination.

Ms. Backmon has a Master's Degree in Urban Planning from the University of Illinois at Urbana-Champaign, and served as Prince William County's regional transportation planner for nearly ten years before assuming her current role as Executive Director of the NVTA in May 2014.

She will be discussing *TransAction*, the long-term regional transportation plan developed by the NVTA which sets long-term future funding goals for a

significant number of regionally-funded transportation projects. Through items like the *TransAction* plan, the NVTA works to provide an integrated, multi-modal transportation system, and to enhance relationships among jurisdictions, agencies, the public, and the business community, and thus advancing the safety and efficiency of our transportation system.

With major transportation projects looming in the region, Ms. Backmon's presentation promises to be interesting to civil engineers involved in these projects and anyone that values a better commute through Northern Virginia! ■



*The Authority*  
for Transportation in Northern Virginia

Walk, ride, or drive to our dinner meeting on Tuesday, January 20, 2015, at the Hilton Arlington, 950 North Stafford Street, Arlington, VA, on the second floor in the Gallery Ballrooms. Parking is available at the hotel (\$8), at the Ballston Mall garage (\$1 after 6 p.m.), and on the street (free after 6 p.m.). The Hilton is on the same block as the Ballston Station on Metro's Orange and Silver Lines. Registration and networking will be from 6–6:45 p.m., followed by dinner. The program will end by 8:30 p.m. The cost is \$45 for those preregistering, \$10 for students, and \$55 for walk-ins, as space allows.

Please click [HERE](#) to register by **January 14**. One Professional Development Hour is available to attendees. For questions, please contact [Christian Manalo](#).

*Note that no-shows will be charged the full registration fee. We welcome walk-ins, including any registrations made after the guaranteed number of guests is provided to the hotel. However, the cost for walk-ins is higher because the Section is charged accordingly by the hotel for late registrations.*

## February 2015 Section Meeting – Blue Plains Tunnel Progress: Deep Shafts and Tunneling in Soft Ground

Did you know that 2–3 billion gallons of untreated combined sewer overflow is discharged into Washington D.C.'s waterways each year? To solve this century-old problem, we need an engineering solution on a massive scale. Enter the DC Clean Rivers Project: DC Water's ambitious \$2.6 billion

undertaking driven by Federal Consent Decree to construct a deep tunnel system designed to capture these sewer overflows. In our February 2015 meeting, James Wonneberg and Ryan Payne of DC Water will provide a virtual tour of the Blue Plains Tunnel, the first phase of this mega-project. Currently

underway, the project features the construction of five enormous holes in the earth (shafts) and Lady Bird, a 26-foot diameter tunnel boring machine, carving out 4.5 miles of tunnel that will dramatically improve water quality in the Anacostia River. ■

## President's Corner

As we start the New Year, I look forward to the excitement and impact of our efforts to make this a banner year for civil engineers in our Section. In 2015 we will release the first-ever DC Infrastructure Report Card, publish our Centennial Commemorative Book, and embark on a new newsletter format. At the same time we continue all the great activities and events that we normally engage in, including our monthly evening dinner meetings, committee meetings, annual awards banquet, YMF activities, website development, and Engineering Week activities.

In November, I released a solicitation for volunteers that received a tremendous response from our members. Our Section has more than 60 new



volunteers who will reinvigorate our committees, including development of the Report Card, and assist in our many other efforts. Together we will continue our renewed commitment to support the more than 3,200 members of our Section and advance the cause of civil engineering in our area.

Our biggest effort this next year will be in preparing for our Centennial. The Year 2016 will mark our 100 year anniversary! It is truly inspiring to know that we will soon meet this major milestone in our history. This is a time to reflect on the many accomplishments that our local civil engineers have made. It is also a time to carry the torch as we prepare ourselves for the next century. Soon we will seek delegates from public agencies

and infrastructure asset owners to represent their organizations for the Centennial. The delegates will be key to making our Centennial year a success; it will help ensure that we are reflective of those who contributed to our Section and that we set ourselves in the proper direction moving forward. Please consider volunteering or nominating a member of your organization to serve as a Centennial delegate. This is more than just a once in lifetime opportunity – your support as a delegate will have a profound impact on your organization and civil engineering in our area for years to come.

As always, please reach out any Board member or myself if you would like to volunteer or have ideas to improve our Section. Also continue to stay tuned to updates in our monthly newsletters and website. Best regards to all, and have a great and prosperous New Year!!

## November Meeting Recap – Marriott Marquis, Washington, DC

By Mark E. Leeman, P.E., M.ASCE

The Marriot Marquis hotel, one of the Washington, DC area's prestigious new projects, was highlighted at the November NCS meeting by Mr. Christopher Crilly of Thornton Tomasetti, the project's structural engineering firm. The new \$500 million, 1.25 million square foot facility, which opened in May 2014, was the first in the Washington, DC area to utilize "top down" construction methods. This means the above grade and below grade portions were constructed at the same time.

As a member of the structural engineering team from the beginning of the project, Mr. Crilly was able to share the benefits of top down construction

for this project. He explained that the primary reason to utilize this method of construction was the schedule benefits, because the project can be built in both directions at the same time.

Mr. Crilly stressed the collaborative nature of the interaction between the designers and the contractors on this design-build project. The team received valuable input from all participants, providing the owner with better solutions than could be obtained from a traditional design-bid-build approach. For instance, the steel fabrication contractor provided valuable input on the benefits of changing from truss members for the main transfer girders to heavier, built-up plate girders, which ended up

ranging from 2,000 to 4,000 pounds per foot. The cost savings were primarily due to less extensive fabrication and field splices, as well as providing more flexibility for mechanical, electrical, and plumbing penetrations.

Overall, the presentation highlighted many of the unique challenges that were overcome in the design and construction of this impressive new facility. The many structural engineering issues associated with the building were only touched upon during the presentation. Please be sure to read the [article](#) in the September 2014 issue of *Civil Engineering* magazine for more details on the project. ■

## Newsletter

Rachel Schneider, Editor

**February 2015 Issue Deadline:** January 15, 2015

**To Submit Articles:** [newsletter@asce-ncs.org](mailto:newsletter@asce-ncs.org)

**NCS eNewsletter Archives:** go to [www.asce-ncs.org](http://www.asce-ncs.org) and click on the Newsletters tab.

**Address Changes:** Call 1-800-548-ASCE, e-mail [member@asce.org](mailto:member@asce.org), visit [www.asce.org](http://www.asce.org), or write: ASCE – Membership, 1801 Alexander Bell Drive, Reston, VA 20191. Include your membership number.

## National Capital Section

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### Committee Chairs

Please refer to the [NCS website](#) for a current list of NCS committees and chairs.

# 2014 Global Engineering Conference in Panama City, Panama

*If you weren't there, you really did miss an adventure!*

By L.J. Sauter, Jr., M.ASCE, former NCS newsletter editor (2010–2014)

Anyone who's read the civil engineering press over the last 8 months or so has probably heard quite a bit about ASCE's Global Engineering Conference in Panama last fall, including summaries of what a great experience it was. There have been plenty of good summaries circulated. Even if you're tired of all the conference hoopla, a great summary can be found in Pat Natale's *ASCE Leadership Letter* issued via e-mail on November 24, 2014.

I promise not to bore NCS readers further with a repeat of what's already been said. I would like to offer, for those of us who are visual by nature, a few photos from the conference.

I don't believe I've ever gone to an ASCE national conference, although years ago I went to several ASCE environmental engineering and other specialty conferences. This time, I went to Panama City to attend the technical tours *first* and the conference sessions *second*. And while the technical tours were once-in-a-lifetime opportunities, I was very pleasantly surprised with what the conference sessions had to offer. For instance, the NCS's Bernie Dennis spent much of last year organizing and editing presentations for the daily History and Heritage (H&H) sessions, which featured various aspects of the Panama Canal's history and notable personalities who "made it happen." These H&H sessions were



Aerial view of construction at the new Atlantic Lock. Note the two "slot" cuts perpendicular to the canal wall. These "slots" will hold the new rolling lock gates which will block the canal at this end. Another set will be located at the far right – outside the photo – to block the northern end of the lock. Photo by Ernesto Guevara Ortiz, M.ASCE.



ASCE President Bob Stevens and NCS member L.J. Sauter catch up on happenings since September. Photo by David Hathcox for ASCE.



NCS members Bernie Dennis (left) and L.J. Sauter pose at construction of the new Pacific Lock.



Rolling lock gates on display for installation in the new Atlantic Lock – cross section.

tremendously informative.<sup>1</sup> By the end of the conference, I realized that there were more interesting sessions than I had time to attend!

I also volunteered to help ASCE manage the various events, which put me, repeatedly, face-to-face with many of the attendees and further enhanced my appreciation of the experience. Yes, attending the conference was a significant expenditure, but, as I said, it

1 The papers presented during the History and Heritage sessions are brought together in *Engineering the Panama Canal – A Centennial Retrospective*, Proceedings of Sessions Honoring the 100th Anniversary of the Panama Canal at the ASCE Global Engineering Conference 2014, October 7–11, in Panama City, Panama. Edited by Bernard G. Dennis, Jr., and published by ASCE Press.



A tanker passes through the existing Miraflores Lock on its way to the Pacific Ocean.

was once-in-a-lifetime. For those of us who have seen and done many remarkable things, the Global Engineering Conference was right up there with some of my best of life experiences. I'm still *thrilled* that I made the decision to attend! ■

## NCS Committee News and Updates

**New!** Did you know that the NCS chapter has fifteen [technical committees](#) that members can join? Every issue we will highlight a technical committee to help you learn more about each one. All of the committees can be found on our website under the Technical Committees tab.

### Geotechnical Engineering Committee

The ASCE NCS [Geotechnical Engineering Committee](#) was formed in the mid-1960s as a result of a need to educate the engineering community in the Washington, D.C. area about developments in the relatively new field of soil mechanics and to advance the state-of-practice by local geotechnical engineers. Ray Fox of George Washington University and Jim Schnabel, founder of Schnabel Engineering, were instrumental in forming the Committee. The group started holding monthly lunch meetings in Tysons Corner, Virginia and instituted a yearly seminar that was attended by local practitioners. Representatives from Woodward Clyde, Dames and Moore, Schnabel, Law Engineering, and SCS were active participants along with engineers from the Army Corps of Engineers, Naval Facilities Engineering Command (NAVFAC), Occupational Safety and Health Administration (OSHA), and major architecture/engineering (A/E) firms such as DeLeuw Cather and Bechtel.

Some 50 years later, the current membership roster contains more than 225 names with monthly meeting attendance averaging 40 engineers, contractors, and supplier representatives. The Committee continues to serve the local geotechnical engineering community

with monthly meetings, seminars, and field trips and is looking to expand into areas of scholarships for local geotechnical engineering students, community service, and continuing education.

Please join us for our next lunch meeting on Wednesday, January 21, 2015 from 11:30–1:30 p.m. at *Maggiano's* in Tyson's II Mall in McLean. Gnana Gunaratnam, P.E, of D.W. Kozera, Inc., presentation, "Under Water Slope Stabilization Using Foundation Piles" will highlight a case study at the Port of Baltimore where foundation support piles for a new berth structure were effectively used to provide an additional factor of safety for an underwater slope structure. Click [HERE](#) for reservations by January 9, 2015.

For more information about the [Geotechnical Engineering Committee](#) email [asce.ncs.gec@gmail.com](mailto:asce.ncs.gec@gmail.com), or attend a lunch meeting!



**Younger Members Forum Monthly Happy Hours.** The ASCE-NCS Younger Members Forum (YMF) holds monthly happy hours in Arlington, VA or Washington, D.C. Happy hours



are typically held the first Wednesday of each month unless a holiday falls during that week. The ASCE-NCS YMF held their November Happy Hour at *McFadden's* in Washington, DC on November 5, 2014 where 15 members attended the event.

The ASCE-NCS YMF's December happy hour and YMF annual holiday party was held at the *Front Page Restaurant* in Arlington, VA, with approximately 25 members in attendance. Members donated new toys, many engineering and construction themed, for the Toys-for-Tots Program to benefit less fortunate children in the Washington metro area.

The next monthly happy hour will take place in Arlington, VA (location to be *continued on page 5*)

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## NCS Committee News and Updates

announced) at 6pm on Wednesday, January 7, 2015. Look for emails with specific locations for future monthly happy hours!

### **Upcoming Event! Walking Tour of Seneca Quarry, Saturday, February 7, Montgomery County, MD**

As a follow-up to the ASCE-NCS YMF October professional development, we have arranged for a walking tour of the now abandoned Seneca Quarry site to be led by local author and historian, Garrett Peck. Mr. Peck previously presented on the history of the Seneca Quarry and its influence on construction and architecture in the Metro DC area. The walking tour is tentatively scheduled for February 7, 2015 – look for email announcements with additional details.

**Get Involved!** Are you interested in getting involved with more Younger Members activities? Do you have ideas for social events or volunteering activities? Would you like to be a board member? The ASCE NCS Younger Members Group is always looking for new members! Let us know if you are not already on our mailing list! If you would like to become more active with the YMF or would like more information on our events, please contact the YMF President ([ncsymfpresident@gmail.com](mailto:ncsymfpresident@gmail.com)).

**Stay Connected!** Check out photos and stay up-to-date with YMF events by visiting the new YMF Facebook page at [www.facebook.com/ASCENationalCapitalYMF](http://www.facebook.com/ASCENationalCapitalYMF). You can also follow us on Twitter (@asce\_ncsYMF) at [https://twitter.com/asce\\_ncsYMF](https://twitter.com/asce_ncsYMF).

### **Centennial Committee Preparing for our 2016 Celebration**

With just a year before our Centennial Celebration begins, our planning has moved into high gear. Numerous Centennial activities will highlight the accomplishments of engineers in the Nation's Capital since the National Capital Section was founded in 1916. A key component for the celebration will be our outreach to students and the public using a Commemorative Book to present local civil engineering projects in a reader-friendly format, tours of select projects, and the Dream Big Imax movie on engineering. This outreach will not only demonstrate how civil engineers make life better for the general public but will also support our profession's future by showing students the opportunities and benefits of pursuing civil engineering as a career.

In addition to these outreach activities, Centennial Committee members will be contacting Federal, state, and District of Columbia agencies in our region, and local government organizations to request representatives that can assist us in promoting local civil engineering accomplishments. Engineering firms will also be contacted to solicit their involvement in our promotional activities as part of our Centennial Celebration. The culmination of our Celebration activities will be a gala to honor our hundred years as a Section and those that have been instrumental in the Section's history.

Thus, our Centennial Celebration provides an excellent opportunity

for promoting our profession, steering students into civil engineering, and recognizing the contributions of civil engineers to the everyday lives of Capital area residents over the last hundred years. However, in order to make this happen, **we need your help** whether you are a Young Member, a Life Member, or somewhere in between. To join us in this important endeavor, please email [Vic Crawford](mailto:Vic Crawford), the Centennial Committee's secretary, and **GET INVOLVED!** All ideas are welcome, and volunteers are needed to make this celebration a success! ■

## Congratulations!

The National Capital Section received the 2014 Outstanding Section and Branch Web Site Award in the very large Section and Branch membership category: (1,001–2500 members). The award will be presented by ASCE President Stevens at the 2015 Regions 1, 2, 4 and 5 Multi-Region Leadership Conference on Saturday, January 10 in Miami.



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# ASCE 2014 Region 2 Assembly Recap

By Vic Crawford and John Casana, ASCE Governor, Region 2

Hosted by Penn State Harrisburg, the 2014 Region 2 Assembly was held on November 8, 2014 and hosted more than 120 student leaders from the Region (Pennsylvania, Delaware, Maryland, and the D.C. metro area). The large turnout was due to the Region 2 Board of Governor's efforts to include all the ASCE Student Chapters and Engineers without Borders Student Chapters within the region's geographic area.

The Assembly provided an opportunity to network, exchange ideas, and information. Student and Younger Member leaders learned about managing your ego, networking, using Laser Scan, transitioning from student to professional, and developing an ASCE Report Card. The students, recent graduates, and their advisors informed the Assembly

about their involvement in Engineers without Borders, Building Information Modeling, improving member participation, and fundraising. Randy Over, PE, ASCE National Past President presented on the resources available to members through the Geographic Services Unit.

The Assembly was not all presentations and discussions. Older members had an opportunity to recall their college days while they toured Penn State's pavement, concrete, soils, and other engineering laboratories. Participants also took advantage of the opportunity to build their professional network while having fun at nearby Hershey's Chocolate World. The 2015 ASCE Region 2 Assembly will be held at Bucknell University, stay tuned for details in future newsletters. ■



Randy S. Over, P.E., Fellow-ASCE



The University of the District of Columbia & Howard University: Two Strategic Partners and Sister Institutions in the Nation's Capital. ASCE-Student Members and Faculty Advisors, November 8, 2014



ASCE Region 2 Conference, November 8, 2014, Hershey Park, PA, Team University of District of Columbia and Faculty Advisor

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# Sustainability Conference Highlights Need for New Design Standards to Develop Infrastructure in the Future

By Doug Scott, ASCE and reprinted with permission from ASCE News

*Editor's note: this article was reduced in length, to read the entire article, please visit <http://blogs.asce.org/sustainability-conference-highlights-need-for-new-design-standards-to-develop-infrastructure-in-the-future/>*

There is a growing sense in the engineering community that the conditions to which engineers design are changing.

Many significant changes are taking place in the built environment, the environment in which civil engineers work. These changes include warming temperatures, sea level rise, extreme weather events, pollution, and more" explained Engineering Consultant William A. Wallace, ENV SP, M.ASCE, chair of ASCE's first International Conference on Sustainable Infrastructure, held November 6–8 in Long Beach, California. "The conference was geared toward alerting people to these facts, understanding the consequences, and figuring out how to deal with them. What we learned is that civil engineers and others are becoming aware of these changes and are taking steps to address them. The bottom line is that the past is no longer prologue, particularly for engineers working on buildings and civil infrastructure."

"One of the things that came home to me in this conference," added Local Organizing Committee Chair Douglas J. Sereno, P.E., ENV SP, F.ASCE, "Is that as we think about how we are going to replace infrastructure which has

basically reached the end of its useful life, we don't have a realistic and workable plan in place for its replacement. The question then becomes: Do we replace it with what we have had in the past or are there new conditions that we need to adapt to for the future? The fact is, there are new conditions out there and there are new design standards that we need to define and address."

That idea was underscored in a session Sereno moderated called "Achieving Zero Emissions in a Transportation Corridor – Innovation through Collaboration." The session featured a panel of 6 experts representing entities and/or agencies participating in the design of an I-710 Zero Emissions Corridor in Southern California.

"They are looking to develop a way to transport cargo from the ports [of Los Angeles and Long Beach] to the rail yards up in central Los Angeles on I-710 using vehicles that emit zero tailpipe emissions. The project is designed to reduce impacts on bordering communities from congestion and emissions." recalled Sereno, director of Program Management with the Port of Long Beach's Program Management Division and incoming chair of ASCE's Sustainability Committee. "But I realized that what they were talking about is developing different systems, technologies, and other possibilities whereby we just can't simply build our way out of highway congestion and pollution with more lane-miles of freeway. We have to



More than 300 people attended ASCE's first International Conference on Sustainable Infrastructure 2014. Source: William A. Wallace

be more ingenious and more adaptive than that. That was a big thing for me, realizing that the old design standards that we had been working with, are no longer valid in the future and we need to come up with a better way."

"We had a great nighttime tour of the Port of Long Beach and Los Angeles where you could see all of the construction activity [from the Middle Harbor Terminal]," concluded ASCE President Robert D. Stevens, Ph.D., P.E., AICP, F.ASCE, who joined the tour. "As this conference fully shows, there is now a growing emphasis on sustainability. It was the first [ASCE] conference of its kind that covered sustainable infrastructure, which I think was a great success." ■

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# Volunteers Needed for Discover Engineering Family Day

Join the National Capital Section and Bechtel at Discover Engineering Day at the National Building Museum on Saturday, February 28, 2015. Volunteers are needed for the 8:30 am to 12:30 pm shift and the 12:30 – 4:30 pm shift.

NCS volunteers have participated in Discover Engineering Family Day for more than a decade by sponsoring fun, educational hands-on activities for students of all ages. The 2015 activity will demonstrate earth liquefaction in a simulated earthquake and the effect of liquefaction on a structure.

All activity materials are provided by NCS. Volunteers help budding engineers set up their earthquake in a cup and explain what is happening. Refreshments and a pizza lunch are provided by the National Building Museum. At the end of the day, NCS volunteers gather at a nearby restaurant for a light meal and beverages.

To volunteer, email [Dean Westman](#) or [Emily Dean](#).

The National Building Museum is located at 401 F Street NW, Washington, DC 20001. The National Building Museum is near the Judiciary Square Metro station on the Red Line. On-street metered parking (limited to 2 hours) and parking garages are located in the neighborhood. ■



## SHAKY GROUND

### GOAL

With a simple battery, kids realize a safe and stable building depends on more than the visible structure.

### GRADE LEVEL

Middle School

### MATERIALS (For each group)

sand  
D, C or 9-volt battery  
(not AA or smaller)  
3 paper cups, 5 – 8 ounce size  
water  
spoon  
drinking straws, toothpicks

### DISCUSSION

Many buildings are built on landfill, sand, or mud that can liquefy. Liquefaction caused much of the damage during the 1989 Loma Prieta earthquake in California. It has also been responsible for major destruction in other quakes, including Kobe, Japan, in 1995, and Mexico City in 1985. Engineers are working to develop techniques to protect buildings and tunnels in earthquake-prone areas.

### ACTIVITY

#### Step 1

Each group starts with a paper cup of dry sand. DO NOT shake the sand in the cup. Stand a battery up on top of the sand.

#### Step 2

Try to knock the battery over by drumming gently with a spoon about halfway up the side of the cup. Not easy, right?

#### Step 3

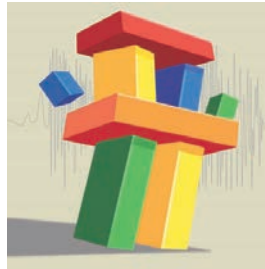
Each group gets a new cup of sand and a cup of water. Add the water to the cup of sand in small amounts, pausing to let the sand absorb it. You may see bubbles on the sides of the cup. This means the sand is still absorbing water. When the sand no longer absorbs the water, it means nearly all the spaces between the grains are full of water. But the sand still looks solid.

#### Step 4

Stand a battery on top of the wet sand and try to tip it over the same way as before. What's the difference?

### WHAT HAPPENED?

In dry sand, air trapped in the spaces between the grains absorbed the drumming vibrations. In the water-sand mixture, the drumming vibrations caused grains of sand at the bottom of the cup to compact (fit more closely



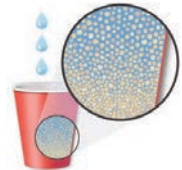
together). This forced the water upward toward the surface, causing the grains near the surface to become supersaturated with water, or to liquefy. When an earthquake shakes the ground, the soil can liquefy, just like in the cup, leaving buildings without firm ground beneath them.

### FURTHER EXPLORATION

One method engineers use to stabilize buildings is driving piles into the ground. Experiment by pushing straws and toothpicks into the sand; make sure they reach to the bottom of the cup without touching the battery.

### SO WHAT?

If the mixture of sand and water sits for a while, the sand particles will settle until they touch each other. There will be water in spaces between the particles, but the mixture will behave as a solid. But during a quake (the vibrations caused by the spoon), the squeezing done by the seismic waves happens very quickly, and the water doesn't have time to flow out of the way of the sand particles. So as the particles try to move into a denser configuration, they push on the water, causing an increase in water pressure. If the water pressure is high enough, for a brief time, the sand particles are suspended in the water. This is liquefaction. The soil's loss of strength occurs because there's no contact between the particles of sand.



### CONNECT TO ENGINEERING

In earthquake prone areas, engineers make sure structures can withstand this liquefaction process. One technique was developed by engineer Sergio Brena in Mexico City. He discovered methods to use a glue-like "wallpaper" on existing buildings and bridges to strengthen them.

Other techniques can be incorporated directly into new construction. Earthquake loads push and pull horizontally on a structure. Solid walls of reinforced concrete or masonry — called "shear walls" — have great stiffness in the horizontal direction. The First Interstate World Center in Los Angeles, the tallest building in the world in a major earthquake zone, has a solid concrete core right up the center of the building. This design allows it to withstand an earthquake with a magnitude of 8.3 on the Richter scale.

*This activity is from the American Society of Civil Engineers. See [www.asceville.org](http://www.asceville.org) for more engineering experiments.*



## Conquering the FE & PE Exams

When approaching the FE Exam for the first time, it's natural to feel a bit overwhelmed. The best way to build your confidence is to prepare for the test and to know the ins and outs of the test. This month's problems can be found [HERE](#).

To answer many readers' questions, let's review the exam day experience and what you are expected to do that day. Once your registration is approved, you will receive an email notification that you have been authorized to take the exam and are eligible to schedule your exam appointment. NCEES computer-based tests are offered in testing windows throughout the year during January, February, April, May, July, August, October and November. Once you register and know your exam date, NCEES recommends the following:

- Plan to arrive at the testing center 30 minutes prior to your scheduled appointment.
- Upon arrival, a representative will provide you with a copy of NCEES-CBT exam rules for your review. After doing so, you will be asked to provide your digital signature to confirm that you have read the rules and agreed to abide by them. You will need to provide a current government issued form of ID (such as a driver's license). Once the representative confirmed your identification and the exam that you are taking, you will be asked to

provide palm vein scan and have your photo taken. Your signature, palm vein scan and photo will be stored with your exam result.

- Prior to be admitted into the testing room, a representative will insure that you have in your possession only the items that NCEES allows them to the testing room. These include: your ID, an NCEES approved calculator and eye glasses. Most test centers have secure storage lockers on site for you to store prohibited items such as cell phones, other electronic devices and personal belongings such as a watch, wallet and bag.
- Once you complete the check in process, report to an exam proctor who will confirm your ID through a palm vein scan. The proctor will then provide with you with a reusable booklet and marker for scratch work, review the exam rules, and will escort you to the exam room and assigned work station, and launch the exam.
- Before starting your exam, all examinees are required to read and agree to the NCEES' non-disclosure agreement and complete a brief tutorial to learn how to ADVANCE to the next item, RETURN to a previous item and FLAG items for review.
- After completing approximately 55 questions, examinees will be prompted on screen with the option to take a 25 minute break. Examinees

who wish to take the scheduled break should raise their hands and wait for the prompter for assistance. Unscheduled breaks may be requested at any time during the exam by following the same procedure. However, examinees should be aware that clock will not stop during an unscheduled break. Examinees are allowed to access their lockers during the scheduled and unscheduled breaks.

- After completing the exam and a brief survey, you should raise your hands and proctor will verify that you had properly exited from exam and escort you from testing room and collect your booklet and marker.

You will not receive any type of score before leaving the testing center. You will receive an email from NCEES within 7 to 10 days notifying you that your results are available for viewing in your MYNCEES account. NCEES also provides information at [www.ncees.org](http://www.ncees.org) and YouTube.

Until next time,

Dr.Z.  
[drz@alfam.com](mailto:drz@alfam.com)



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## Upcoming Events *(Also available on the NCS website under the [Events tab.](#))*

### January 7

The NCS Younger Members Forum sponsors its monthly Happy Hour from 6–8 p.m. in Arlington, VA. Join other younger members from the area for free appetizers and drink specials. Look for an upcoming e-mail announcement with more details. (See newsletter brief.)

### January 9–10

2015 Workshops for Section and Branch Leaders for Regions 1, 2, 4, & 5 will be held at the Hyatt Regency in Miami, FL. Concurrently, there will be a Workshop for Student Chapter Leaders and the Eastern Regional Younger Members Council annual meeting. The Eastern Regional Younger Member Council is offering social events during the conference. For more information, please contact [Christian Manalo](#).

### January TBD

Mr. Raymond Paul Giroux, M. ASCE whose presentation, “Building the Panama Canal (Men, Machines, and Methods)” drew a big crowd at the annual conference in Panama is coming to our area. Visit our [website](#) for more details or contact [Bernie Dennis](#), NCS History and Heritage Committee Chair.

### January 20

Ms. Monica Backmon, Executive Director of the Northern Virginia Transportation Authority, kicks off the NCS 2015 monthly dinners at the Hilton Arlington. She will share with us the details behind long-term transportation planning in Northern Virginia and reveal future plans for the area. (See lead article.)

### January 21

The NCS Geotechnical Executive Committee presents “Under Water Slope Stabilization Using Foundation Piles” by Gnana Gunaratnam, P.E., at *Maggianno’s* Tysons II Mall from 11:30–1:30 p.m. Click [HERE](#) to RSVP by **January 9, 2015**. (See newsletter brief.)

### February 7

Join ASCE-NCS YMF for a walking tour of the abandoned Seneca Quarry site in Montgomery County, MD. Look for further email announcements with additional details. (See newsletter brief for more details.)

### February 17

Join us for the NCS monthly dinner meeting at the Hilton Arlington hosted by NCS’s Water Resources Committee.

DC Water’s James Wonneberg and Ryane Payen will update us on the progress of the Blue Plains Tunnel. (See newsletter brief.)

### February 22–28

[Engineers Week](#). Share your enthusiasm for engineering and make a difference in a young person’s life. Visit the site and see newsletter brief.

### March 17

**Save the Date!** Annual ASCE NCS Awards Banquet at the Hilton Arlington.

### August 23–26

ASCE will sponsor *Pipelines Conference 2015* at the Baltimore Marriott Waterfront Hotel in Baltimore, MD. The conference will focus on recent advances in underground pipeline engineering and construction. Abstracts are due by **November 13, 2014** and registration will open in March 2015. For more information, click [HERE](#).

## Employment Clearinghouse

*The ASCE-NCS provides the Employment Clearinghouse as a free service to its membership. The Clearinghouse allows members to post short notices for available positions or candidates seeking employment. All employers listed herein are equal opportunity employers. If you have questions, are seeking employment or would like to post a position please contact the [newsletter editor](#) and visit our [jobs page](#).*



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