ASCE NATIONAL CAPITAL SECTION

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National Capital Section

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March Section Meeting

Initial Investigation into the Partial Collapse of the Champlain Towers South (CTS) Building in Surfside Florida

On June 24, 2021, the Champlain Towers South building in Surfside Florida collapsed without warning. The initial collapse occurred outside of the building tower in the pool deck region. Seven minutes later, the central portion of the building collapsed. The eastern portion of the building collapsed quickly after that but the western section of the building remained standing. Professor Lehman worked with an investigative journalist team at the Miami Herald led by Sarah Blaskey to investigate the partial collapse using tools and technologies she had developed through her research on seismic evaluation of existing buildings and design of new concrete connections. The primary objective of the investigation is to understand how initial damage in a pool deck could lead to partial collapse of this flat-plate cast-in-place reinforced concrete structure with an eye towards improving evaluation methods for these structures. Professor Lehman presented to the National Capital Section on March 22, 2022 and addressed the building collapse using a timeline of the collapse as reported by witnesses, building damage photographs and videos, building plans and repair drawings and permits, and advanced nonlinear finite element analyses of the Level 1 slab to investigate possible initiation points and progression of damage.

About the Speaker

Dr. Dawn Lehman is a Professor of Civil and Environmental Engineering at the University of Washington. She received her BS from Tufts University in 1989 and her PhD from U.C. Berkeley in 1998. She worked as a structural engineer in Boston MA between these degrees. She has been a faculty member at the University of Washington since 1999. Her research expertise lies in seismic engineering of structural systems. She has conducted research on a range of systems including reinforced concrete walls and frames, steel braced frames, as well as concrete-filled-tube, precast and reinforced-concrete bridge systems. Her research results have been implemented in codes, design manuals and provisional structural engineering recommendations, including AASHTO, AISC, WSDOT BDM, Caltrans SDM, and ASCE 41. She has authored over 100 peer-reviewed research articles. She led the technical investigation of the partial collapse of Champlain Towers South as a consultant to the Miami Herald. ■

Region 2 Award Nominations

ASCE Region 2 is accepting nominations for the following awards:

- Younger Member Award
- Outstanding Student Award
- Diversity and Inclusion Award
- Lifetime Achievement Award
- Outstanding Faculty Practitioner Advisor Award

Region 2 consists of the Central PA, Delaware, Lehigh Valley, Maryland, National Capital, Philadelphia, and Pittsburgh Sections, including the Reading, Catoctin, Eastern Shore, Reston, and Northwestern PA Branches. If you would like to nominate an individual for an award, please reach out to president@asce-ncs.org for the nomination forms. Hurry, the deadline is April 1! ■

President's Corner

Hello to the National Capital Section!

The American Society of Civil Engineers Legislative Fly-In and Policy Week was held from March 2–4, 2022 in Washington, D.C. as a hybrid and virtual event. I participated for the first time and learned so much. The event included a welcome from ASCE President, Dennis Truax, Ph.D., PE, DEE, D.WRE, F.ASCE and a keynote address from Dr. Geraldine Richmond, Undersecretary for Science and Energy at the U.S. Department of Energy. Both days also included intensive workshops, such as ASCE Issue Briefs concerning the Infrastructure Investment and Jobs Act (IIJA); a panel with leaders of State Departments of Transportation; and a talk on How Infrastructure Became a Trending Topic by CBS News' Transportation Correspondent Errol Barnett. *In short, the ASCE Legislative Fly-In equipped attendees with lessons on how to advocate for infrastructure on Capitol Hill and organized virtual congressional meetings to do just that.*

I was honored to meet with Congresswoman Eleanor Holmes Norton, as an Advocacy Captain and as part of the DC Delegate with Martino Scialpi, PMP, CCM. We discussed priority issues in Washington, D.C., as we move toward implementation of the IIJA. As industry experts, civil engineers in the National Capital Section can assist leaders by updating them on infrastructure needs in the community. Thanks to the Report Card Committee of the National Capital Section, we have an incredible tool to use for these conversations. I would love to return to the Fly-In next year and encourage participation in advocating for infrastructure year-round. Members of the Section can continue to expand their knowledge by visiting ASCE's Infrastructure Investment and Jobs Act Implementation Resource Center page, a member-only resource.

ASCE Legislative Fly-In with Congresswoman Eleanor Holmes Norton, Jameelah Muhammad Ingram, & Martino Scialpi.

As March continues, ASCE NCS will host a presentation with Dr. Dawn Lehman, Professor of Civil and Environmental Engineering at the University of Washington. She will discuss the initial investigation into the partial collapse of the Champlain Towers South (CTS) Building in Surfside Florida at our Section Meeting on March 22, 2022 at 12 pm ET. All are welcome to attend to learn how initial damage in a pool deck could lead to a partial collapse. ASCE NCS thanks Dr. Lehman for her efforts and availability to present. My hope is that learning more about this tragedy will be a positive step in preventing future ones for families and their loved ones.

In closing, I would like to thank the members of the National Capital Section for the continued support, as we strive to offer professional development opportunities. Also, on behalf of the National Capital Section, I would like to extend our congratulations to the ASCE Virginia Section on reaching 100 years! They will be hosting a Centennial Gala on March 26, 2022. Coming this Spring, the National Capital Section looks forward to recognizing outstanding people and projects on April 26th, 2022. More details to follow.

Sincerely,

Jameelah C. Muhammad Ingram, P.E., M. ASCE
ASCE NCS President

Newsletter

Maria Raggousis, *Editor*

May 2022 Issue Deadline: April 20, 2022

To Submit Articles: newsletter@asce-ncs.org

NCS eNewsletter Archives: go to www.asce-ncs.org and view along the sidebar.

Address Changes: Call 1-800-548-ASCE, e-mail member@asce.org, visit 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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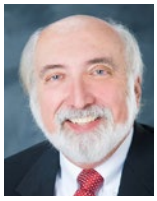
Committee Chairs

Please refer to the NCS website for a current list of NCS committees and chairs.

Virginia Section Centennial Gala Recap

On March 26th, 2022, the Virginia Section held their Centennial Gala at the Omni Hotel in Richmond, VA. Early attendees met with President Dennis D. Truax, PE, DEE, DWRE, FASCE, FNSPE before the official start of the Gala. President Truax was also the keynote speaker and captivated the audience with grace. President



Truax is a James T. White Endowed Chair, Department Head, and Professor of Civil & Environmental Engineering at Mississippi State University and the director of the Mississippi Transportation Research Institute. He is a 1976 graduate of Virginia Tech and could not miss the Virginia Section Centennial! If you missed the event or the opportunity to meet with President Truax, check out this interview to get to know him! ■

2022 OPAL Leadership Awards Honor 5 Exemplary Engineers

The annual ASCE Outstanding Projects And Leaders awards honor five civil engineers for career achievements in each of five categories: construction, design, education, government, and management. This year's winners will be recognized Oct. 25 at the OPAL Gala during the ASCE 2022 Convention in Anaheim, California.

And now, presenting the OPAL recipients for 2022:

In construction, Susan Hou, M.Eng, P.E., PMP, M.ASCE, regional project manager, San Francisco Public Utilities Commission – for innovation and excellence in construction of civil engineering projects and programs.

In design, Raymond P. Daddazio, Eng.Sc.D., P.E., F.EMI, M.ASCE, senior consultant and former president, Thornton Tomasetti – for innovation and excellence in civil engineering design.

In education, Gholamreza Mesri, Ph.D., M.ASCE, Ralph B. Peck Professor of geotechnical engineering at the University of Illinois Urbana-Champaign – for demonstrated excellence in furthering civil engineering education.

In government, Lloyd C. Caldwell Jr., P.E., M.ASCE, former Director of Military Programs for the U.S. Army Corps of Engineers – for demonstrated leadership of public sector projects and programs.

In management, Paul F. Boulos, Ph.D., Dist.D.NE, Hon.D.WRE, NAE, Dist.M.ASCE, founder and former chief executive officer, Digital Water Works Inc. – for exceptional management skills in his professional career. ■

April 1, 2022: Beginning of a New Era for Engineers Planning to Take the PE Civil Exam

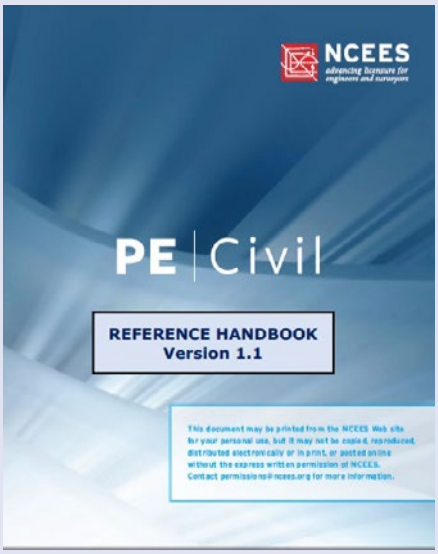
In this month's article, we share ground-breaking news with our readers regarding the Principles and Practice of Engineering (PE) Civil exams. Starting April 1, 2022, The National Council of Examiners for Engineering and Surveying (NCEES) will be transitioning the PE Civil exams from pencil-and-paper (P&P) format to a computer-based (CBT) format.

Initially, NCEES planned to complete the PE Civil exam's transition to CBT format in 2023 but fast-tracked the change as part of its response to COVID-19. After the April 2020 pencil-and-paper exam administration was canceled because of the coronavirus pandemic. NCEES added an extra day to the October 2020 administration and began exploring the possibility of moving the PE Civil exam to CBT earlier than planned. The PE Civil exam was offered for the last time in pencil-and-paper format in October 2021.

Engineering students who passed the FE exams (students with EIT) should know about the Principles and Practice of Engineering (PE) exams. The PE exam basically tests for a minimum level of competency in any given particular engineering discipline. It is designed for engineers who have gained a minimum of four years' post-college work experience in their discipline under a PE's supervision (depending on state requirements).

The PE Civil exam in CBT format includes 80 questions. The total exam appointment time is 9 hours and it includes a non disclosure agreement (2 minutes), tutorial (8 minutes), actual exam (8 hours) and a scheduled break (50 minutes). For more information our readers may refer to the latest version of *NCEES Examinee Guide at* NCEES.org. All examinees are required to read this document before starting the exam registration process.

It is also important for our readers who are planning to take the PE Civil CBT exam to review the exam specifications, fees, requirements and the reference material. The new **PE Civil Reference Handbook**, **Version 1.1** may be downloaded for free from NCEES website. To download, first register or log in to My NCEES and then go to Dashboard/Common Tasks/Useful Documents/View reference handbooks.



The current version of the reference handbook will be supplied onscreen as a searchable PDF. All examinees will use a 24-inch monitor while testing to allow sufficient space to display both the exam question and the reference handbook. If codes, standards, or other references are being supplied, they will be listed on the last page of the exam specifications.

Typically, references are best viewed in the exam software at 100%. If additional clarification is needed, zooming to a higher or lower percentage may be helpful.

The exam fee for the new PE Civil CBT is $375 and is payable directly to NCEES. Some licensing boards may require filing a separate application and paying an application fee as part of the approval process to qualify for a seat. The examinee's licensing board may have additional requirements as well. If you are planning to take the PE exam, familiarize yourself with your state licensing board's unique registration procedures before registering for the exam.

Specifications and design standards

The PE Civil CBT exam is a breadth and depth examination. The breadth items cover topics from all five areas of civil engineering. The depth items focus more closely on a single area of practice. The PE Civil exam includes multiple-choice questions as well as Alternative Item Types (AITs).

For details on the format and length of the exam, the topics covered, and applicable design standards, select your engineering discipline below to download the exam specifications from NCEES' web site, NCEES.org. PE exam specifications and design standards are posted 6 months before their effective date. Exam specifications change once every 5–7 years. Design standards change more frequently. The design standards for **2022** exams are listed below according to five civil engineering disciplines:

- Civil Eng: Construction
- Civil Eng: Geotechnical
- Civil Eng: Structural
- Civil Eng: Transportation
- Civil Eng: Water Resources and Environmental

Allowed reference materials

As mentioned earlier, the examinee will be provided with an electronic *PE Civil Reference Handbook* as well as all design standards specified for the chosen civil discipline during the exam. This handbook and the standards listed on the exam specifications are the ***only*** reference material that can be used during the exam.

The examinee will not be allowed to bring personal copies of any material into the exam room. Design standards are available through the publisher, typically as both an electronic and printed copy.

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Dr. Z's Corner, continued

The handbook and design standards will be available for both the ***breadth*** and ***depth*** portions of the exam, though design standards are not needed for breadth questions. The NCEES handbook and the design standards used on the exam are searchable pdf files with linked chapters for easy navigation.

Finally, we have to remind our readers that both the FE and PE exams are very fast paced exams and you will have little time to look up information. Therefore, make sure you are familiar with your reference material and design standards. It will be helpful to begin with the subject areas you know best. This will give you more time and build your confidence.

Most importantly, stay relaxed and confident. During the exam, keep a good attitude and remind yourself that you are going to do your best!

Until next time,
Ahmet Zeytinci, P.E.
az@akfen.com

Celebrating the First Women Members of ASCE

By Melinda Luna, P.E., CFM, F.ASCE

March is Women's History Month, an occasion to reflect on the contributions of women to the world. In this article, ASCE's History and Heritage Committee celebrates some of the Society's pioneering women.

When Elsie Eaves, P.E., applied to be a full member of ASCE in 1927, she knew that some women affiliated with ASCE, including Nora Stanton Blatch Barney, had applied for full membership in the past but were declined that status.

Barney was the daughter of Harriot Stanton Blatch and the granddaughter of Elizabeth Cady Stanton, leaders in the women's rights movement in the United States. In 1905, she became the first junior member of ASCE. That same year she was also among the first U.S. women to earn a degree in civil engineering. She worked for the American Bridge Company, New York City Board of Water Supply, Radley Steel Construction Company, and the New York Public Service Commission. She also contributed to the women's rights movement, was a leader in the Women's Political Union and served as editor of the organization's newsletter. ASCE's junior membership included an upper age limit, similar to today's younger member designation. Thus eventually Barney aged out of her ASCE membership.

Eaves did not let that deter her from pursuing and attaining full membership in ASCE. As she built a rewarding career, one of her first major accomplishments was to create an inventory of municipal and industrial sewage facilities that helped shape federal loan and grant legislation in the 1930s. Later, she wrote construction market and wage reports for *Engineering News-Record*. Eaves was the first woman professional engineer in the state of New York in 1930. She went on to become the first female ASCE life member, first female member of Chi Epsilon, and the first honorary female member of the American Association of Cost Engineers.

The second woman to become a full member of ASCE was Jane H. Rider in 1931. Rider was director of the Arizona State Laboratories at the University of Arizona. She was a sanitary engineer who investigated public water supply, garbage, and sewage disposal, and she conducted a special investigation of the Salt River and canal system. Rider, too, had a career of firsts and was inducted into the Arizona Women's Hall of Fame.

Jane Rider was the second woman to attain full ASCE membership.

For the ASCE Texas Section and the Austin Branch, Leah Moncure, P.E., was the first female member. Moncure spent her entire career working for the Texas State Department of Highways. Additionally, she was the first female professional engineer in Texas.

The ASCE History and Heritage Committee encourages the Society's sections and branches to celebrate their first female members as part of Women's History Month by identifying and researching names and careers. ■

Your Documents as Library: The Object

The second in a series of four articles for managing with PowerShell your Documents folder as a library by Ranjit Sahai, PE, F.ASCE

In last month's hands-on exercise, you counted the number of files in your `Documents` folder in a mere split second. Let us continue that journey with three additional exercises to demonstrate your access to powerful pre-built methods that come bundled with Microsoft Windows.

Mimicking Word's Change Case

Click Start, type `PowerShell`, and click Windows PowerShell.

At the command prompt, type the following and press `Enter`:

```
$myProfession = "Civil Engineer"
```

This statement assigns "`Civil Engineer`", a text string object, to the variable `$myProfession`. Note that variables begin with the `$` symbol. Next, type the following and press `Enter`:

```
$myProfession.ToUpper()
```

This statement invokes the `ToUpper()` method to change the case of the string `Civil Engineer` to `CIVIL ENGINEER`.

Here, you accessed the same method that Microsoft Word uses with its Change Case to **UPPERCASE** command (Fig. 1).

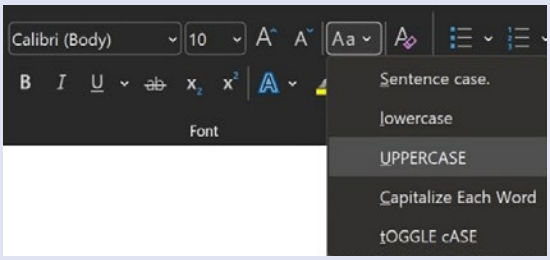

Fig. 1: The first exercise mimics Microsoft Word's Change Case capability.

The day US declared independence

Our next exercise determines the day of the week when the United States declared its independence from the British Empire:

```
(Get-Date "7/4/1776").DayOfWeek
```

In this exercise, the `Get-Date` PowerShell command converts the string object `"7/4/1776"` to a `DateTime` object, and `DayOfWeek` extracts the object's day of the week property: `Thursday`.

Note that the period (.) invokes a method on or extracts a property from an object.

An object's methods and properties

The following exercise lists the methods and properties of the `FileInfo` object by using the familiar `$dal` (an acronym for *Documents as Library*) variable introduced last month:

```
$dal = Get-ChildItem
$env:USERPROFILE\
Documents - File - Recurse
```

(See last month's article for a narrative description of the above statement.)

In this exercise, instead of determining the number of files in the Documents folder, as we did last month, we will list all members (i.e. methods and properties) of `$dal`, a variable that holds `FileInfo` objects. In PowerShell, type the following and press `Enter`:

```
$dal | Get-Member
```

continued on page 7

```
PS C:\> $myProfession = "Civil Engineer"
PS C:\> $myProfession.ToUpper()
CIVIL ENGINEER
PS C:\> (Get-Date "7/4/1776").DayOfWeek
Thursday
PS C:\> $dal = Get-ChildItem $env:USERPROFILE\Documents -File -Recurse
PS C:\> $dal | Get-Member

   TypeName: System.IO.FileInfo

Name                      MemberType     Definition
----                      ----------     ----------
```

Fig. 2: These exercises demonstrate your access to powerful pre-built methods bundled with Windows. (String, DateTime, and FileInfo objects are demonstrated above.)

Civil Engineering and You, continued

The `Get-Member` command receives `FileInfo` objects from the `$dal` variable and lists all its members, whether method or property.

To see the list of methods and properties for a text string, type in PowerShell:

```
"Civil Engineer" | Get-Member
```

To see the list of methods and properties for the `DateTime` object, type:

```
Get-Date | Get-Member
```

Two takeaways

The first thing to take away from the three hands-on exercises is that the functions you can perform with an object – such as convert the case, trim letters from a word, split sentences from a paragraph, and the like – are called methods. The attributes of an object, such as the number of characters in a text string, or the day of the week for a date object are called its properties.

The second takeaway is the list of methods and properties of `String`, `DateTime` and `FileInfo` objects. Why? Because the document search commands, being featured in the May issue of this article series, are crafted from them as raw material. Specifically, the properties of interest are `Directory`, `LastWriteTime`, `Name`, and `Extension` from the `FileInfo` object, which in turn are made from `String` and `DateTime` objects.

Next month, we'll take a guided tour of the PowerShell command-line interface.

About the Author

Ranjit, a Past President (2013–14) of ASCE-NCS, is a principal and founder of RAM Corporation, a firm serving State DOTs with a focus on traffic engineering design, stormwater facility inspections, and IT solutions for engineering workflows.

ASCE Legislative Fly-In Returns to Capitol Hill for First Time in Three Years

By Ben Walpole, Aff. M.ASCE

The annual ASCE Legislative Fly-In returned this week to Washington, DC, for the first time in three years, after COVID pushed the 2021 event to a virtual platform and forced the cancelation of the 2020 iteration.

"It's good to get back and see people," said Jim Pajk, P.E., M.ASCE, who figures he hasn't missed a fly-in for at least a decade, representing central Ohio. "And there's a different energy having it right here in Capitol Hill."

The ASCE fly-in gathered 225 ASCE members from 48 states, the District of Columbia, and Puerto Rico – most of them in person, some participating via Zoom – for a three-day program of advocacy sessions and networking, highlighted by congressional visits to discuss infrastructure.

Those conversations took on a new tenor this year with the passage of the bipartisan infrastructure law in November. At $1.2 trillion, it marks the largest infrastructure investment in the nation's history.

Of course, that also can complicate certain congressional visits, depending on who you're talking to.

"It's exciting to always have that really good 'thank you' to offer people," Pajk said. "But there are some challenges. From Ohio, Sen. (Rob) Portman was instrumental in getting the IIJA (Infrastructure Investment and Jobs Act) accomplished in such a bipartisan way in the Senate. On the House side, it wasn't as robustly bipartisan as we would have liked. So we've had to have some discussions with elected officials promoting the benefits of the IIJA in their district, even if they didn't vote for it. Those can be challenging conversations.

"You want to be respectful of how they voted. At the same time, we want to discuss the benefits that they're going to see. And they're receptive."

The other interesting challenge is ASCE members fending off the notion that with the bipartisan infrastructure law in place – as industry altering as that may be – the country's infrastructure needs are taken care of. ASCE's infrastructure advocacy work continues.

Pajk found a potent conversation starter in the recent news that Intel will be making a $20 billion investment in facilities in central Ohio.

"That's an unbelievable talking point," Pajk said. "It's going to create more investment, but it also means we're going to have to be proactive about our infrastructure. And it's more than just roads and bridges. So it's great to talk about that this week."

While Pajk and his fellow grizzled advocacy veterans reconnected, many other ASCE members enjoyed their first Legislative Fly-In experience.

Less than a year out from graduating from college, Matthew Jacobson, EIT, ENV SP, A.M.ASCE, made the trip from Los Angeles for his initial fly-in.

"There is this really big intersection between civil engineering and the work we do and the legislative work that Congress does," said Jacobson, who now works as a civil analyst for Kimley-Horn and Associates. "I think that really inspired me to get more connected. Graduating and being a working professional now, you see how the work we do as civil engineers directly impacts the community but also relies heavily on public funding. It seemed like everything was coming together all at the same time." ■

ASCE-NCS Committee and Branch News and Updates

Reston Branch

By Michael J. Magyarics, P.E., M. ASCE, Reston Branch Vice President

On February 8, 2022, the Reston Branch hosted Eric Sender, PE, DBIA, Senior Vice President, and Julia Simo, PE, Project Manager, both from Wallace Montgomery for their virtual presentation entitled, "Albemarle Intersection Bundling." Their presentation discussed the VDOT Albemarle Intersection Bundling Project, which consists of six separate intersection and interchange spot location improvements (elements) for traffic safety/operations and overall traffic congestion relief around the City of Charlottesville, and "bundled" under a $28.5m best value design-build contract. The presentation also provided an overview of the Albemarle Intersection Bundling Project's procurement, design submittals, and construction and highlighted challenges faced in the on-going delivery of the six intersection/interchange improvements.

Eric Sender is a PE and DBIA-certified professional with over 30 years of experience in transportation roadway projects, including the last 20 years as a Design Manager dedicated to delivering design-build projects. In 1994, he joined Wallace Montgomery as a Design Engineer, and advanced to become a Senior Vice President and Chief Engineer of the Highways Department. From 1999 to 2004, he provided general engineering consultant services to the Maryland Department of Transportation State Highway Administration (MDOT SHA) to develop design-build concept designs, performance specifications, and ROW and utility relocation requirements. Eric facilitated establishing utility relocation corridors along the MDOT SHA roadway dualization design-build projects, which earned a National AASHTO Award for Innovation. Eric has spent the past 18 years as a Design Manager delivering design-build final design efforts on traffic operations and safety interstate-expressway/arterial/collector roadways and intersection/interchange improvements projects – which gave him the technical expertise and oversight skills to serve as the Curtis Contracting Design-Build Team's Design Manager on the Albemarle Intersection Bundling Project.

Julia Simo is a PE with over 9 years of experience in structural engineering, highway engineering, project management, and program management. She joined Wallace Montgomery in 2020 as a Project Manager for the Highways Department, primarily for transporation-related projects in Virginia. Julia served as the Wallace Montgomery Project Manager for the US 250/Route 151 roundabout; the new Rio Mills Road to Berkmar Drive connector road; and the I-64 Exit 124 at US 250 Diverging Diamond Interchange (DDI) improvements on the Albemarle Intersection Bundling Design-Build Project. Prior to working at Wallace Montgomery, Julia was employed with VDOT as a Structural Engineer in the Structure & Bridge Division and as the first VDOT eConstruction Program Manager where she spearheaded eConstruction initiatives such as Tablet Based Inspection and 3D/4D Engineered Models. As part of her roles, Julia served as Lead Designer for bridge design and maintenance projects, coordinated multiple high-profile design-build and P3 projects, and developed 3D Engineered models with reality modeling for public involvement.

On March 8, 2022, the Reston Branch hosted Adam Marolf, MS, PE, Senior Geotechnical Engineer and Branch Manager for American Geotechnical & Environmental Services, Inc., for his virtual presentation entitled, "Managing Project Risks with Geotechnical Information." The presentation highlighted many of the subsurface features that are challenging to fully characterize and underscore the importance of including geotechnical design throughout the project life. There are options for the type of subsurface explorations that can be performed, and the method selected as well as the frequency of testing are both of utmost importance in providing an appropriate design.

Construction projects have uncertainty in many different aspects, but it is generally understood that the characterization of the subsurface conditions is often one of the least predictable items and requires careful consideration by the designer. It was challenging in the past for geotechnical engineers to obtain professional liability insurance due to this risk, and it was work by organizations such as the Geoprofessional Business Association (formerly the Associated Soil and Foundation Engineers) that helped to standardize best practices and better incorporate the inherent variability of the subsurface data into the overall project specifications and plans.

Subsurface explorations are carried out early in a project development process and at times are not refined to include changes to the overall project. It is necessary for the project managers and design teams to consider the importance of including geotechnical designers throughout the design process to ensure that the geotechnical data collected is pertinent to the final project alignment and grading. Depending on the project type there are various items below the surface of the ground that need to be evaluated and may include: the load carrying capacity

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of the underlying soils and bedrock; the excavation method for site grading; the presence of contaminants that require special handling; the network of underground utilities beneath and adjacent to the project; and the depth and integrity of existing structure foundations.

Adam Marolf, M.S., P.E. is a Senior Geotechnical Engineer and Branch Manager for American Geotechnical & Environmental Services, Inc. in Tysons, Virginia with 19 years of experience and registration as a Professional Engineer in Virginia, District of Columbia, Maryland, West Virginia, Pennsylvania, New Jersey, and Delaware. Adam completed his B.S. in Civil Engineering at Purdue University and his M.S. in Civil & Environmental Engineering at the University of Michigan with research focused on highway materials. He has managed large geotechnical projects which include bridge and culvert replacements with deep and shallow foundations, earth retaining structures, landslide stabilizations, and roadway projects. He is an active member of American Society of Civil Engineers (ASCE) where he serves as the Vice President of the National Capital Geo-Institute. He is also a member of the Deep Foundations Institute (DFI) and serves on the Testing & Evaluation Committee as well as the Subsurface Characterization for Deep Foundations Committee. Adam is also a member of American Society of Highway Engineers (ASHE) Potomac Section, American Council of Engineering Companies (ACEC) Metropolitan Washington, and the Virginia Transportation Construction Alliance (VTCA) and has presented webinars through Geo-Institute, state transportation departments, and ACEC.

The Reston Branch has launched a group on LinkedIn to provide regular updates for the Branch as well as offer a place for branch members to connect. See the following link for additional information: https://www.linkedin.com/groups/13759693/

AEI DC

On March 3rd, AEI DC held their first ice skating event at the plaza at Pentagon Row. We started with a networking social and happy hour at the nearby Mattie and Eddie's Irish Bar and Restaurant and moved next door to the largest outdoor skating rink in Northern Virginia!

On April 7–8, the Architectural Engineering Institute (AEI), in partnership with the University of Texas at Arlington, is pleased to announce the 4th Biennial AEI Forum, *MEGA CITY 2070: The Future Vision of Urban Infrastructure: Addressing the Impacts of Growth, Development and Urbanization in the Building Industries*. This theme provides a framework for the profession to understand, explore and challenge the IMPACTS of growth, development and urbanization.

While many have benefited from the tremendous growth and urbanization in many US cities, the impacts are significant in every aspect of our lives. This forum will allow representatives across

the building industries to explore and discuss these impacts.

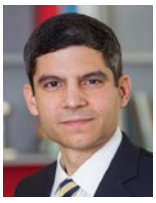
The Forum will feature presentations from industry experts that tie into the theme with topics on intelligent environment, structures/disaster mitigation, energy, education, ethics in structures and energy and a keynote presentation on ASCE's Future World Vision, Mega City 2070.

There will also be presentations from the finalists of the AEI International Student Competition, AEI Professional Project Awards, and culminating with the Awards Ceremony. Continuing education activities will be offered as PDH credits.

We have to "*step into the future, where a city of 50 million people is no longer just a city. It's a MEGA CITY. How will engineers accommodate a population so large, while preserving the city's historic character, promoting accessible green space and supporting a diverse array of lifestyles and economies*?" Explore the Mega City

Keynote speakers include:

- Gerald (Jerry) Buckwalter, M.ASCE – Chief Innovation Officer, ASCE



- David J. Odeh, SE, PE, F.SEI, F. ASCE, SECB – Principal, Odeh Engineers, Inc.

- Burcin Becerik-Gerber, DDes – Professor and Chair, Astani Department of Civil & Environmental Engineering, University of Southern California

Employment Clearinghouse

The 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.