

## February Section Meeting

The Transform 66 Outside the Beltway project will provide new travel choices and congestion relief across a 22.5-mile stretch of I-66 from I-495 to near Route 29 in Gainesville. Improvements include new express lanes, more than 4,000 new park and ride spaces with convenient access to the express lanes, new and improved bus service and transit routes, interchange improvements, and 11 miles of new bike and pedestrian trails. When complete, an estimated 2,000 to 4,000 more people per hour will move through the I-66 corridor outside the beltway. Construction began in late

2017 and the new express lanes are scheduled to be completed in late 2022. The Transform 66 Outside the Beltway project is a public-private partnership between the Commonwealth of Virginia and I-66 Express Mobility Partners (I-66 EMP), you can learn more about the partnership [here](#).

### Speaker

Richard Clifton, PE, PTOE, *Responsible Charge Engineer*, FAM Construction. Richard received his Bachelor of Science in Civil Engineering from Virginia Tech and later pursued higher education

towards a Master of Science in Transportation Engineering from the University of North Carolina at Charlotte. He previously served as President for the American Society of Highway Engineers (ASHE) and has since remained involved in the national organization

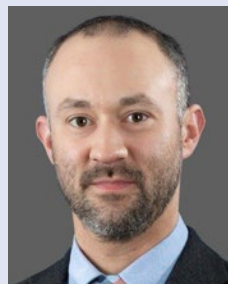
Please join us virtually on **Tuesday, February 16th** at Noon for a modified ASCE National Capital Section February Lunch Meeting! The program will approximately consist of a one-hour presentation with a webinar format and one (1) PDH credit will be awarded. The cost will be \$5 for all members, non-members, and students. For questions, please contact [president@asce-ncs.org](mailto:president@asce-ncs.org). Please [click here](#) to register by **Monday, February 15th**.



as well as his local sections. He has been with FAM Construction, LLC for almost four years. FAM Construction, LLC is a joint venture between Ferrovial Agroman and Allan Myers serving as the design-builder of the *Transform 66 Outside the Beltway Project* for I-66 Express Mobility Partners and VDOT. Previously, Richard served as the Deputy Design Manager for Allan Myers, just outside of Richmond. ■

## President's Corner

Greetings members of the ASCE-NCS. I hope everyone enjoyed the holidays albeit a bit differently this year. As we move forward into the new year, the NCS volunteers have been working hard to continue to develop virtual meetings and activities until we may all meet again in person. Our February Section meeting will be held (virtually) lunchtime on February 16th and will feature a presentation by Richard Clifton, PE of FAM Construction on the Transform I-66 Project. Keep an eye out for email announcements and registration information.



As we move towards March, the NCS Annual Awards Banquet, which typically takes the place of the March Section meeting will take place in a different form. The NCS Banquet Chair and Board of Directors are working to provide a virtual offering where the NCS will have the opportunity

to recognize the award recipients. The Awards Banquet is the NCS's opportunity to recognize Outstanding Seniors & Scholarship recipients from each of the five universities located within the NCS's boundaries, as well as feature Project of the Year and Sustainability Project of the Year winners.

I'd like to thank our membership who took the time to review and vote on approving the revisions to the NCS Constitution & Bylaws. The NCS is nearing completion on the years long process of updating our governing documents to reflect the creation of the Reston Branch a few years back.

Please feel free to reach-out with questions, feedback or to say hello ([president@asce-ncs.org](mailto:president@asce-ncs.org))! And hope everyone stays safe during these trying times, and if you haven't already please remember to renew your ASCE membership.

*Mike Venezia, PE*  
ASCE-NCS President

## Importance of Setting SMART Goals: A Goal Without a Plan is Just a Wish

Few stories are as widely read and as universally cherished by children and adults alike as *The Little Prince* (Le Petite Prince). It was written by Antoine de Saint-Exupéry in 1943. It captured the hearts of readers around the world, sold about 140 million copies and continues to sell over two million copies every year.

One of the lessons from this novella comes from the famous quote "A Goal Without a Plan is Just a Wish." In the late 1960s, Locke and Latham's pioneering research into goal setting and motivation gave us our modern understanding of goal setting. This month we would like to talk about setting goals.

An effective way to make goals more powerful is to use the mnemonic SMART. This acronym stands for Specific, Measurable, Achievable, Realistic, and Timely. Therefore, a SMART goal incorporates all these criteria to help focus your efforts and increase the chances of achieving your goal. Let us briefly focus on each component:

**Specific:** Answers the who, what, where and when of the goal. Compiling all these details allows you to see what is really required to

achieve your goals. One of the questions to ask includes: What is the end result? For the civil engineering students for example, the end result seems quite clear: to conquer the FE exam while students are in school and passing the PE exam within five years after graduation while working under the supervision of a licensed professional engineer.

**Measurable:** In setting measurements, you are creating milestones within your SMART goal to track progress. For example, before you attempt to analyze and design a complex indeterminate structure, first you have to fully understand the analysis and design of simple determinate structures. Here, the questions to ask are: How will you determine success? What numbers can you track along the way? How will you know when you have achieved your goal?

**Achievable/Attainable:** Always consider if your goal is realistic or just a dream. A good goal will make you stretch, but it should not be out of reach. If the thought of trying to lose forty pounds is overwhelming, start with a goal of losing five or ten. Some important questions: Do you believe you can do this? Is this goal really achievable? For our civil engineering

students, passing the FE and PE exams is quite possible and many students accomplished that goal on their first attempts.

**Relevant/Realistic:** Consider whether this is worth your time. This helps you determine which path to focus on and where to spend your time. Some methods interpret the "R" as realistic: Is this goal worth your time and effort? Is it a win-win goal? Is it a priority? For our civil engineering students, the answer is absolutely yes. Conquering the FE and PE exams builds your confidence, makes you feel proud of yourself, and is relevant to career prospects.

**Timely/Time-bound:** Every goal must have a timeline and a deadline. Items with deadlines take priority. Items without deadlines get lost in the shuffle. What is the target date or due date? Are there milestones along the way with their own due dates? Do you need weekly, monthly, or quarterly goals to be achieved?

All successful people in all fields set goals. Setting goals give students long-term vision and short-term motivation. It helps them to organize their time and their resources so that they

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## Upcoming Events

Until further notice, all in-person ASCE NCS events have been cancelled. Opportunities for virtual events will be announced as they are planned.

## Newsletter

Maria Raggousis, Editor

**March 2021 Issue Deadline:** February 15, 2021

**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 view along the sidebar.

**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](http://www.asce-ncs.org) for a current list of NCS committees and chairs.

can make the most of their life. Goal setting is fundamental to long-term success as well. After all, it's difficult to get to a desired destination before you have clearly defined where that destination is. Goals help students to focus upon the journey to a collection set of achievements, meaning they allocate their resources and time more efficiently and can access motivation during times when they may feel like giving up.

**Writing your Goals is Important:**

Writing a specific goal into a calendar or journal gives engineering students something to work and plan toward. When written down, these goals form an external representation of inner desires to pass the exams. Written goals are a constant reminder of what a student wants to accomplish. Goal setting even fuels ambition and confidence by encouraging determination through difficult periods and offering a sense of pride when success finally arrives.

**Setting Goals Break Down**

**Mountains:** Most young adults have big dreams that can seem impossible to accomplish at first. It is easy for students to feel discouraged when they are staring at a future that seems too large to achieve. However, proper goal setting can break those larger, more intimidating aspirations down into achievable stepping stones. Not only does planning toward smaller

goals make it easier to formulate a plan of how one achievement can lead to another, but [research suggests](#) that achieving smaller milestones offers greater levels of motivation.

**Setting a Goal Obligates to Take an Action:**

Setting a goal obligates an individual to take action, regardless of the obstacles that may be in place. As such, it can encourage students to develop critical thinking skills, new problem-solving techniques, and a better understanding of how to overcome challenges. The accountability of goal setting encourages students to look back over their previous successes and failures, evaluating areas they need to improve. As such, it pushes them to tackle challenges head on and work on their weaknesses in order to produce better chances of overall success. It can also help engineering students to realize techniques that may not be working for them so they can seek out alternative routes to achievement.

**Goals Make Students Want to**

**Be Better:** There are [numerous experimental and correlational studies](#) showing that setting goals increases success rates in almost every setting, including education. Part of the reason for this is that setting goals pushes young adults to articulate the things they want out of life, so they live more consciously. Without goals, students subject themselves to a default or

natural set of actions that are there to keep them feeling safe and comfortable, without offering any opportunity for growth. With goals, students can discover more about themselves and work towards becoming the best versions of themselves. In other words, goals allow engineering students to tap into their inner potential by giving them targets to strive toward.

**Goals Prepare Students for Professional Life:**

Through goal setting, students discover a level of respect for the dedication and determination required to achieve further important goals in life. Not only is goal setting important for helping students get more out of their academic experiences, but it also means that they will continue to use the same skills in the future to apply for a high-paying job or achieve a new promotion. Furthermore, setting goals gives engineering students an important tool to measure their progress through life by using their leadership skills, critical thinking, and determination.

We would like to thank the Army and Navy Academy for the permission to use some of their resources: (<https://armyandnavyacademy.org>).

Until next time,  
Ahmet Zeytinci (Dr.Z.)  
[az@akfen.com](mailto:az@akfen.com)



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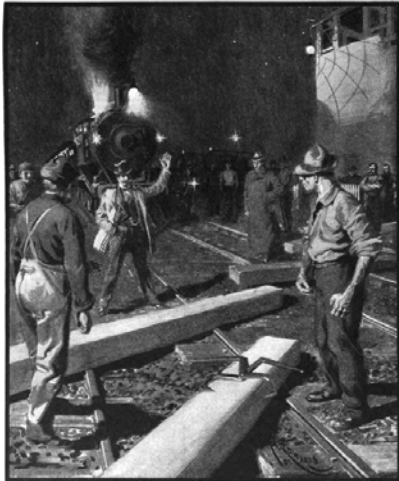
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## The Abridged Calumet "K": Episode 4

The fascinating novel *Calumet "K"* by Samuel Merwin and Henry Webster was published in 1901. Its hero? An efficacious engineer.

An 8-episode condensed edition with text by Ranjit Sahai © 2021. All Rights Reserved. [Illustrations by Harry Edwards, from novel.]



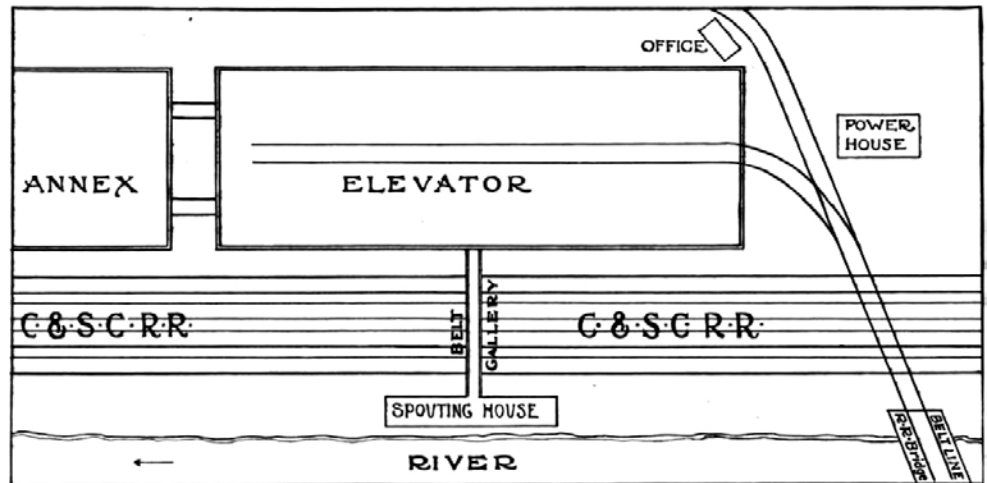
"When Peterson refused, Grady called the men off, just where they were."

"I guess you'd better go home, Miss Vogel. It's after nine o'clock." Bannon bade Miss Vogel a good night and hurried back to the job site. There was no sign of activity, though the two arc lamps were still in place. He followed the path beside the elevator and on around the end. A long line of timbers lay end to end across the tracks, where they had been dropped by the laborers, who were lounging around waiting for the order to move on. Bannon started forward when Max, who had been hurrying over to him, touched his arm. "What's all this Max?"

"I'm glad you've come. It's Grady, the walking delegate." "What's the trouble?"

"First, he wanted to know how much we were paying the men for night work, and I told him. Then he said we were working the men too hard; we'd have to put ten more men on the heavy sticks and eight on the others. When Petersen refused, Grady called the men off, just where they were. He wouldn't let them lift a finger."

The delegate was reveling in his authority. Bannon was beginning to see that Grady was more eager to make trouble than to uphold the cause of the men he was supposed to represent. Knowing the power of the unions, and that a rash step now might destroy all hope of completing the elevator on time, Bannon asked Grady what he wanted. "These gangs



"Get a wire cable off your hoisting engines and fasten one end as high as you can on the spouting house. We'll run it across the tracks," said Bannon.

ought to be relieved every two hours." "I'll do it." Bannon started the gangs at work. Then he went over to the wharf to see how much timber remained on the steamer at the dock. Bannon walked back to the tracks in time to see the section boss of the C & SC railroad come up the track to hand him telegraphed orders prohibiting the movement of timbers across the tracks.

"What'll we do?" Peterson asked. "Get a wire cable off your hoisting engines and fasten one end as high as you can on the spouting house. We'll run it across the tracks," said Bannon. Half an hour had gone before the cable could be stretched from the spouting house, high over the tracks, down to the elevator structure.

Before the last plank from the steamer's cargo had been tossed on the pile by the annex, the first faint color was spreading over the eastern sky, and the damp of the low-country morning was in the air.

Bannon came on the job early next morning and looked through the doorway at the square mass of elevator that stood out against the sky like some gigantic, unroofed barn. The walls rose nearly eighty feet from the ground, so close to the top of the tops of the posts that were to support the cupola frame that Bannon's eyes spoke of satisfaction. He meant to hide those posts behind the rising walls of the cribbing before the day was gone.

Miss Vogel was at work on the ledger when Bannon entered the office. She looked up, smiling. "Can you drop it long enough to take a letter or so?" "Oh, yes." Bannon dictated a letter to MacBride & Co. noting that the timber was ready for framing the cupola, two hundred thousand feet had arrived last night, and the balance would be down in a few days.

Miss Vogel turned on her stool and asked, "I don't understand it, Mr. Bannon. How did you get the cribbing down without cars?" Her interest in the work pleased Bannon. He told her about Sloan, the trip to Blake City, and the farmers carrying the cribbing on wagons to Manistogee to a barge by the lake.

The annex was growing slowly but surely, and Peterson, with his sleeves rolled up, was at work with the men, swinging a hammer here, impatiently shouldering a bundle of planks there. Bannon saw more clearly what he had known before, that Peterson was a good man when kept within his limitations. The annex could not have been better started.

### Novel's condensed text by

Ranjit Sahai, ASCE-NCS Past President (2013-14), is a principal with RAM Corp serving State DOTs on projects in traffic engineering design, stormwater facility inspections, and information technology. ■



## FGIA 2021 Conference Schedule

The Fenestration and Glazing Industry Alliance (FGIA) has formalized its [2021 conference schedule](#), beginning with the FGIA 2021 Virtual Annual Conference. Online registration for the event to be held Feb. 23–25 will open in mid-January. Additionally, at this time, FGIA has decided to host its Summer Conference virtually.

### FGIA 2021 Events

- FGIA Virtual Annual Conference & Awards Ceremony: Feb. 23–25
- FGIA Virtual Summer Conference: June 22–24
- FGIA Fall Conference: Oct. 18–21, Sheraton Grand at Wild Horse Pass, Phoenix, Arizona

“Although COVID-19 vaccines are beginning to be distributed, the Summer Conference was intended to be held in Vancouver – adding the complication of the unknown status of the U.S./Canadian border, which was certainly a

factor in this early decision,” said Janice Yglesias, FGIA Executive Director. “Additionally, through FGIA surveys and conversations with our members, indications are that, while travel critical to supporting customers is currently permitted on a limited basis, outside of those parameters, it’s unlikely that other travel will be permitted until at least the second half of the year. Therefore, FGIA will continue to provide high-quality industry content in an online format, while keeping our members’ safety our highest priority.”

“It is FGIA’s expectation and greatest hope to be able to host our Fall Conference in person later in 2021,” said Yglesias. “We are eager to return to in-person events and are looking forward to seeing our members face-to-face as soon as it is safe to do so.”

Event sponsorships at various levels are still available for the FGIA Virtual Annual



Conference. Learn more about sponsorship or contact Florica Vlad, FGIA Meetings and Events Planner, at [fvlad@fgiaonline.org](mailto:fvlad@fgiaonline.org).

For more information about FGIA and its activities, visit [FGIAonline.org](http://FGIAonline.org). ■

## Employment Clearinghouse

### **Simpson Gumpertz & Heger Inc., Consulting Engineer, Structures Division**

Simpson Gumpertz & Heger Inc. (SGH) is currently looking to hire a structural engineer with a minimum of 5 years industry experience. SGH’s Washington, DC Structures Division provides structural engineering services with an emphasis on new design, repair and rehabilitation of constructed works, and investigation and performance evaluation. [Click here](#) for more information and to apply on the website.

### **Prince George’s County Planning Department of The Maryland National- Capital Park and Planning Commission**

The Prince George’s County Planning Department of The Maryland National-Capital Park and Planning Commission is seeking a Planner Coordinator with a background in geotechnical engineering. The Planner Coordinator will play an important role in reviewing geotechnical reports, evaluating proposed land developments from geotechnical perspectives, ensuring implementation of the applicable environmental regulations and geotechnical requirements,

educating the public on the requirements, permitting regulations, and assisting with the myriad of state reporting requirements. [Click here](#) for more information and to apply on the website.

### **St. Mary’s County, Public Works & Transportation, Project Manager III**

St. Mary’s County is seeking a project manager for the implementation of the County’s architectural and engineering Capital Improvement Programs for the Department of Public Works & Transportation, including buildings, roads, marine, drainage, airport improvements, and other public facilities. [Click here](#) for more information and to apply on the website, [click here](#).

*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](#).*

## Pioneering Engineer Delon Hampton Dies at 87

Delon Hampton, esteemed academic, founder of a firm bearing his name that has grown for 48 years, and at the outset of the 21st century, ASCE's first Black president, has died. He was 87.



From impoverished days in Chicago to expansion of his firm Delon Hampton & Associates Chartered into a multimillion-dollar engineering company with seven offices, his success inspired many in the field as well as students in the classroom. "He was a geotechnical engineer and he was truly down to earth," said ASCE 2021 President Jean-Louis Briaud. "As our first Black president, his example will serve to inspire younger generations for many decades to come."

Hampton, Ph.D., P.E., D.GE(Hon.), Hon.M.ASCE, Pres.00.ASCE, NAE, taught at Kansas State University and oversaw research at the University of New Mexico before joining the faculty at Howard University, in Washington, D.C., in 1968, where he would teach, conduct research, and publish papers for 25 years. At a time when there were few Black-owned engineering companies, Hampton was a pioneer, founding DHA in 1973. His achievement encouraged minorities to pursue careers in engineering. He was both founder and chairman of the board at DHA, which won contracts for such high-profile

projects as the U.S. Capitol Visitor Center, international airports in Atlanta and D.C., and metrorail projects in D.C., Los Angeles, and Atlanta. Key to its profile were the driving principles and traditions established by Hampton, who obtained professional engineering registrations in 18 states plus the District of Columbia.

In 1999 he was elected ASCE president for the year 2000. Over the years, the Society honored him with the Edmund Friedman Professional Recognition Award and the James Laurie Prize. He also served as president of ASCE's National Capital Section and as district director of the ASCE Board of Direction. "Delon was a passionate advocate for civil engineering and left a lasting legacy for ASCE and the profession. During his ASCE presidential term, he led the Society to establish the Outstanding Projects and Leaders Awards (OPAL) program, which ASCE continues to this day to recognize and celebrate the heroes of the civil engineering profession," said Executive Director Tom Smith. "He leaves a long list of lasting ASCE accomplishments and civil engineering projects that enhance the quality of life for all of us. We are grateful for his leadership, service and his generous support of ASCE and offer our deepest sympathies to [spouse] Sonia and his family."

Hampton's contributions also took the form of valued service on many professional association boards. He was a former councilor of the National Academy of Engineering and a fellow of the American Academy of Arts and Sciences, among others. He was former chair of the Civil Engineering Research Foundation's Corporate Advisory Board and Professional Activities Committees and active in a number of industry-related boards, including the American Public Transit Association Business Members Board of Governors, the National Building Museum Board of Directors, and the CEC Memorial Board. "My first interactions with Dr. Hampton were during a period of my transition to greater national involvement with ASCE," said 2021 President-elect Dennis Truax. "Even then, it was obvious that Delon was committed to seeing that our profession embraced inclusiveness, not just because it was the right thing to do, but because he understood that we are only at our best when all voices are heard."

Hampton received his bachelor's degree in civil engineering in 1954 from the University of Illinois. He went on to earn his master's (1958) and Ph.D. (1961) in civil engineering from Purdue University. Hampton was a Chapter Honor Member of Chi Epsilon. He loved reading nonfiction, playing tennis and golf, and traveling. He and his wife of 27 years, Sonia, traveled the world together. ■

### ASCE-NCS Newsletter Patrons



## Digital Twins: Your Future Home

The second in a series of articles on digital twins in civil engineering, written by Ranjit Sahai, PE, F.ASCE.

A digital twin of your home is its digital representation that:

- Receives data from connected sensors
- Analyzes and responds to sensor data
- Provides tools to review/act on data
- Interacts with other models

Both the Ring doorbell and the Nest thermostat meet all but the last criteria.

Digital models of the Ring and Nest devices receive data from sensors, analyze and respond to data received, and provide tools (app or screen) to review and act on that data. However, neither model interacts with other models.

It is this lack of interaction with other models that disqualifies the Ring and Nest models as digital twins. Both are connected to the home they model but are isolated from its other models.

### Your Future Home

You are in the market for a new home and have selected the one to buy. Imagine when you go to the closing, you receive not just the keys for the home, but also a QR code for its digital twin.

On your way home, you scan the QR code in the Digital Twins app. The dashboard displays a list of models in your home's digital twin: 3D visualization model, electrical and the plumbing distribution model, energy usage model, and basement wall model.

When you install a digital-twin-compatible video doorbell, its model updates the 3D visualization model with its location and 3D visual parameters, the electrical distribution model with the electrical circuit number it is connected to, and its energy consumption data in the energy usage model.

When you invest in a new HVAC system, the service technician requests permission to connect to the 3D

visualization, the electrical distribution, and the energy usage models of your home's digital twin.

This enables the technician to rapidly process all available equipment and identify the one most appropriate, while also developing a list of sensor-evidence-based work items for specialized duct or electrical work to include in the project's scope of work.



Imagine receiving at closing, not just the keys for your new home, but also a QR code for its digital twin.

Photo by Binyamin Mellish from Pexels

Upon installation, the home's digital twin also gets updated with information about the new equipment, and its operating and maintenance needs.

Then a few years after you invested in a sunroom addition, which was anchored to the basement wall in the backyard, you see a notification on the Digital Twins app alerting you of a message from the basement wall model.

The concrete in the basement wall had included an aggregate, derived from bones, for its piezoelectric properties. The concrete aggregate produces an electric charge in response to mechanical stress.

A piezoelectric transducer had triggered the notification from the basement wall model.

You click the notification, which invokes the 3D visualization model, which in turn highlights a six-foot-long and four-inch-wide vertical area starting from the lower-right corner

of the basement window. A note next to the highlighted area of the finished basement states that a crack may be developing on the wall here.

After the contractor injects that area with a waterproofing sealant, he remarks that it would have been a few years before the gestating crack would have widened enough for groundwater to leak. The early warning from the digital twin had triggered an inexpensive fix, preempting the costly repairs associated with a flooded basement later.

### Interaction Between Models

The "future home" Digital Twins scenario described herein consisted of several models. Each model was a purpose-specific representation of a product or its process.

In this scenario, the video doorbell model interacted with at least three other models: visual model to update location and geometry; electrical model to identify circuit number; and energy model to feed it energy consumption data.

In future articles in this series, we will discuss several other scenarios to showcase its potential in every imaginable disciplinary situation.

This series will conclude with a description of the technological framework underlying Digital Twins, and the skills needed to incorporate – even develop – such models for your infrastructure projects.

### 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.



# Most Common Bookkeeping Mistakes Small Business Owners Make

As a small business owner, there are many bookkeeping mistakes you cannot afford to make, regardless of your industry. Mistakes made by the business owner usually lead to a setback in your operations. More significant errors can have you overpay taxes, fines, and penalties. A huge enough mistake could even put you out of business. Here are the most common bookkeeping mistakes made by business owners and some tips on how to avoid them:

## 1. Co-mingling personal and business funds

Co-mingling funds means storing money intended for different purposes in the same bank account. Co-mingling of funds is a common practice by new small business owners, but there are several reasons why co-mingling of funds should be avoided at all costs:

- A. According to the IRS, only businesses can deduct business expenses. Please consult IRS Publications 525 and 535 for specific guidelines for determining whether an entity is a business or a hobby.
- B. Tax time becomes a nightmare if funds are co-mingled. It is very time-consuming to separate personal and business transactions during tax filing.
- C. Separate business funds will provide a clear audit trail.
- D. Co-mingling of personal and business funds can lead to missed deductions.
- E. Co-mingling can show a lack of professionalism. Writing a check using your name instead of your business signals that you are not a serious business venture.

Take the time to open a small business banking account to simplify your record-keeping and life.

## 2. Failing to classify employees correctly

Due to the gig industry, there are so many independent contractors, consultants, and freelancers around these

days, and it can sometimes be challenging to determine who is on staff and who is not. DO NOT ignore this issue, however. Misclassifying employees and contractors can have serious consequences, such as tax penalties and lawsuits. Please consult IRS Publication 15-A for further details.

## 3. Failing to collect or deduct the appropriate sales tax

The growth in e-commerce has made sales tax more complicated for many small businesses. Historically, the most common sales tax mistake was failing to deduct sales tax from total sales, translating into lump-sum surprises come tax time. While that still holds true, recent federal law changes related to the court case *South Dakota v. Wayfair* have made sales tax collection more complicated when it comes to online, state-to-state fulfillment. Make sure you and your bookkeeper are familiar with the latest laws about sales tax and its compliance issues so that you can limit your overall tax liability.

## 4. Failing to track reimbursable expenses

If you do not track your expenses, you are flushing money down the toilet. Not only can you lose money, but you can also lose tax deductions, which is yet additional money down the road. Make it a habit of tracking your expenses as you accrue them; otherwise, you may overlook some of your expenses. Hubdoc, ReceiptBank, and Receipt Capture are the most popular expense-tracking apps and allow you to scan, store, and organize your receipts and documents.

## 5. Keeping the books without using reputable accounting software

Quite often, many new business owners use a spreadsheet for bookkeeping. Although spreadsheets can work for a simple bookkeeping system, it does not support growth for your company. There are many benefits to using accounting software. You can track all aspects of financial management, such as inventory management, payroll,

invoicing, and expense management, in one central location. You can also generate reports related to cash flow, balance sheet, and profit and loss. All these reports show the financial health of the business. By maintaining your financial records in the software, your financial statements are always ready when filing taxes or applying for bank loans.

## 6. Neglecting to reconcile accounts

Reconciling your books with your bank statements is one of the most crucial tasks during monthly bookkeeping. It helps you understand how much money you have on hand at any given time and allows you to discover bank errors before they become huge problems. Reconciliation can be complicated, however, which is why hiring an experienced bookkeeper is highly recommended. Accounts that should be reconciled monthly include (but are not limited to): bank accounts, credit cards, loans, and lines of credit.

## 7. Trying to do it yourself

Most small business owners do not enjoy doing their books yet do their bookkeeping during the first few years. If the business owner does not have the skill or the experience for bookkeeping, usually he will end up with messy books that are not up to date. When the books are not clean or caught up, tax season can be very painful for the business owner. Cleanup and catching up of books can be costly. It is better to hire a professional bookkeeper who has the required skills and the experience to do the job quickly and efficiently. They will be able to locate subtle errors that might otherwise be missed and also be aware of the tax changes that could affect your day-to-day financial practices.

*About the author: Manjit Sahai is a staff accountant with 25+ years of accounting and bookkeeping experience. She is President and Founder of Every Penny Accounts Bookkeeping. She can be contacted at [msahai@everypennyaccounts.com](mailto:msahai@everypennyaccounts.com). ■*



# ASCE-NCS Committee and Branch News and Updates

## Reston Branch

By Christopher J. Friend, P.E., Reston Branch Vice President

On January 12th, the Reston Branch hosted Zachary Beach, P.E., a senior structural engineer at Bechtel. Zachary is also the Steel and Concrete Lead for the Bechtel Digital Enterprise Program. His presentation covered Building Information Modeling (BIM) and Requirements Management for Structural Engineering. He highlighted how a robust requirements management program can minimize quality issues during construction and ensure high performance of the design once in service. Overall, Zachary provided an informative and well received presentation for our Branch members!

On February 23rd at 12 PM, the Reston Branch is excited to be hosting Renée Hamilton, CEO of the Dulles Greenway. Renée will provide an overview of the Dulles Greenway, as well as discussion related to upcoming legislation in the Virginia legislature. Additional information regarding the presentation will be provided in the coming weeks.

Given the current nature of the pandemic, the ASCE Reston Branch is planning to have our technical meetings in a virtual format continuing into the spring. As the situation develops in the spring, the Board will continually reevaluate the situation and will schedule virtual or in-person meetings as appropriate.

The Reston Branch has launched a [group](https://www.linkedin.com/groups/13759693/) 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/>

## Education Committee

By Jameelah Muhammad Ingram, PE, M.ASCE

The month of February offers an opportunity to celebrate contributions made by African Americans throughout history. National Engineers Week also takes place from February 21st to the 27th. It is an opportunity to recognize the impacts engineers make on our world and to inspire future generations. Here are three ways that you can observe both special times:

### 1) Learn about an African American Pioneer in STEM

Mr. Benjamin Banneker was an African American intellectual, born on November 9, 1731 in Baltimore County, Maryland. He is known for his vast knowledge of mathematics, astronomy, and the natural world. He had a myriad of accomplishments, which included engineering clocks and authoring almanacs. Notably and quite relevant to the ASCE National Capital Section, Mr. Banneker was appointed as an assistant to American Land Surveyor, Mr. Andrew Ellicott, to map the land and create boundaries for the new Federal Capital District in 1791! He was also a strong advocate of civil rights and corresponded with Thomas Jefferson on the issue. To learn more, please visit the following references for the above information: <https://www.whitehousehistory.org/benjamin-banneker> and <https://youtu.be/DKnwvVR4P88>



Highsmith, Carol M, photographer. "Benjamin Banneker: Surveyor-Inventor-Astronomer," mural by Maxime Seelbinder, at the Recorder of Deeds building, built in 1943. 515 D St., NW, Washington, D.C. Washington D.C. United States, 2010. Photograph. <https://www.loc.gov/item/2010641717/>

### 2) Engage in Outreach

This year, the theme for National Engineers Week is Inspiring Wonder. Here are two great resources for connecting with pre-college students and inspiring them to pursue careers in engineering: [https://www.asce.org/pre-college\\_outreach/](https://www.asce.org/pre-college_outreach/) and <http://discover.org/our-programs/engineers-week>.

### 3) Collaborate on ASCE Collaborate

The ASCE Collaborate platform allows the ASCE community to connect across international boundaries. It is a forum that both students and professionals can lean on to gain advice or to share best practices. Please follow the link below to join (or start) a discussion: <https://collaborate.asce.org/careerbydesign/home>.

### Important Dates for ASCE NCS Student Chapters:

- ASCE NCS Scholarship Application Due: February 12, 2021
- 2021 Virginias Conference (Virtual): April 8 – 10, 2021 (*Attendee registration is due by February 15, 2021 and more information is located here:* <https://studentconferences.asce.org/virginias/>)



### Younger Members Forum

By Kush Vashee, P.E., CAPM, M. ASCE

**Monthly Happy Hour.** The NCS Younger Members Forum (YMF) holds monthly happy hours, alternating between Arlington, VA and Washington, DC. Happy hours are usually the first Wednesday of each month unless a holiday falls during that week.

On January 6th the NCS YMF held their first virtual happy hour of the year on Webex. Due to the increase in COVID-19 cases around the DMV area, we have made the decision to continue with virtual happy hours for the foreseeable future. The group will host their next virtual happy hour starting at 6PM on February 3rd on Webex, look out for an email soon with registration details. We hope to see you there!

**Professional Development:** If you have suggestions for professional development meeting topics or would like to become more involved with the YMF in other areas, please contact the YMF President at [ncsymfpresident@gmail.com](mailto:ncsymfpresident@gmail.com).

**Stay Connected!** Check out photos and stay up-to-date with YMF events

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by visiting the new YMF Facebook page (ASCE National Capital Section Younger Members Forum), following us on Twitter (@ASCE\_NCS\_YMF), LinkedIn (ASCE National Capital YMF), and Instagram (@asce\_ncs\_ymf)

**Get Involved!** Are you interested in getting involved with more Younger Members activities? Do you have ideas for social events or volunteering activities? The 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 email the YMF President.

### **History & Heritage Committee**

At the time of this writing we were coordinating the January Section Lunch virtual meeting – Steve Pennington speaking on Benjamin Wright – Father of American Civil Engineering. Hopefully you were able to attend and learn more about Wright and why ASCE so designated him in 1970.

Wright had a significant impact in our area, specifically as Chief Engineer of the C&O Canal. There are other notable civil engineers who have left their mark in the DC Metro Region: Andrew Ellicott, Montgomery Meigs, Benjamin Latrobe, and many more.

If you are curious about civil engineers and their designs throughout our region, then join our History and Heritage Committee. It's lots of fun sharing stories behind the landmarks and how they came about.

We plan to have virtual meetings with presentations on our landmarks and engineers behind them. Discuss resources for more information, review relevant books, share upcoming events of interest, and plan volunteer projects. Topics planned in coming months include The Zero Milestone, The Old Naval Observatory, The Patowmack Canal, HAER Collection, and more. Share your ideas and interests, too.

To ensure you are notified of upcoming events – virtual meetings, please send an email to Steve Pennington at [steve.pennington@geo-instruments.com](mailto:steve.pennington@geo-instruments.com), and Bernie Dennis at [berniedennisjr@gmail.com](mailto:berniedennisjr@gmail.com). If we can't reach you, we both lose. Join us today as we look back on yesterday.



### **Geo-Institute Cole Field House Support of Excavation Project**

Cole Field House was the University of Maryland's basketball arena from 1995 – 2002. A little more than a decade after a new basketball arena was constructed, the University decided that [to best utilize the existing Cole Field House] it would transform the field house from a former basketball arena and student activities center into an indoor football facility. In 2016, Nicholson Construction Company was chosen as the design-build contractor for the support of excavation portion of the work. The unique constraints at the site provided an opportunity for the construction team to exercise creativity and to yield a cost-effective solution to support the existing structure while widening the arena floor to support a full-size football field. The presentation will discuss the initial review and determination of the best geotechnical solution, design of the permanent wall system, and construction challenges during the renovation.

**About the Speaker:** Mark Rothbauer is an Area Manager with Nicholson Construction in Pittsburgh, PA. He has over 20 years of experience in specialty geotechnical design and construction. He has extensive experience with micropiles, tiebacks, soil nails, and high capacity dam anchors. His current focus is business development for the DC/ Baltimore market. Mark has a bachelor's degree in Civil Engineering from Johns Hopkins University and a Master



of Business Administration from the University of Pittsburgh. He is a licensed engineer in Pennsylvania, West Virginia, and Maryland.

**The event will be held on February 17th from 12-1 PM EST. [Click here to register!](#)**

### **Environmental & Water Resources Institute**

Clean, fresh water resources are the fundamental building block for civilizations across the world. Join EWRI National Capital Section on Thursday, February 4th, at noon to hear Dr. Jason Davison from Catholic University discuss efforts to produce 3-D models of these resources. This talk will discuss multiple simulations including Washington DC's Anacostia Watershed, the state of California, and Canada.

Dr. Jason Davison is an Assistant Professor in the Department of Civil Engineering at The Catholic University of America. Previously, he was a Post-Doctoral Scientist at Aquanty Inc., where he researched Canada's water resources and the impact of global climate change. Jason received his PhD in Earth and Environmental Sciences from the University of Waterloo in 2017, and his research focused on integrated atmosphere, surface, and subsurface water flow models. He received his M.S. in Environmental Fluid Mechanics and Hydrology from Stanford University and his B.S. in Civil and Environmental Engineering from the Georgia Institute of Technology. Jason's research interests include water cycle modeling, environmental policy, continental scale hydrology, and climate change. [Click here to register!](#)

For questions or more information please contact chapter president [Ken Klewicki](#).

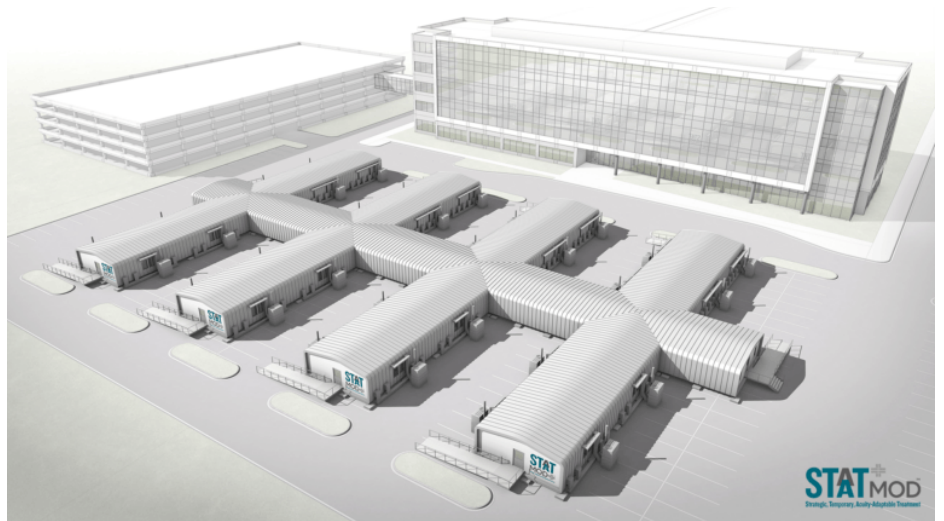
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## Architectural Engineering Institute Committee

The Architectural Engineering Institute (AEI DC) Committee of ASCE NCS recently held a virtual presentation for *Building an Adaptive COVID-19 Response: STAAT Mod Critical Care Units* presented by HGA and The Boldt Company on January 28th from 6–7 PM. As the COVID-19 pandemic spread across the United States, HGA and The Boldt Company undertook an unusual project to address the acute shortage of beds straining existing healthcare infrastructure. STAAT Mods are prefabricated modular patient care facilities, that are easy to transport and deploy at any scale and in a variety of layouts. The versatility of the unitized design has made it easy to expand the capacity of hospitals across the country. Read more about the project [here](#).

Our next virtual presentation will be held on February 11th at Noon EST for an Intro to WELL Programs focusing on WELL v2 and the WELL Health-Safety Rating and Process. Stay tuned for an email to register! ■



AIR



WATER



NOURISHMENT



LIGHT



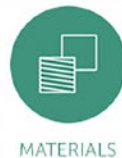
MOVEMENT



THERMAL COMFORT



SOUND



MATERIALS



MIND



COMMUNITY



INNOVATION

### ASCE-NCS Newsletter Patron

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