ISSUE ONE • 2024

ENGINEERING INC.

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AWARD-WINNING BUSINESS MAGAZINE ● PUBLISHED BY AMERICAN COUNCIL OF ENGINEERING COMPANIES

RISING TO THE OCCASION

Engineers battle sea-level increases and land subsidence

Preserving the Past: Historic Renovations

ACEC/PAC Breaks Fundraising Records

MO Profile: ACEC Wisconsin

Peters and Yaffee Putts for a Purpose

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CONTENTS

Issue One • 2024

12

COVER STORY

COMBATING RISING SEAS, SINKING CITIES

As land subsidence and climate change threaten infrastructure, engineers are pioneering solutions for a sustainable future.

"There are a lot of ways to build infrastructure to protect against climate impacts, and a community's preference is an important consideration when choosing which course to take."

Pamela Yonkin
Sustainability and Resiliency Director
HDR

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Michael Maslansky,
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FEATURES

17
PAVING THE WAY
The Engineering and Public Works Roadshow stopped in Frankfort, Kentucky, to showcase a game-changing infrastructure project.

18
2023 ACEC/PAC WRAP-UP: REACHING NEW HEIGHTS
The organization achieved significant milestones last year.

23
PUTTING FOR A PURPOSE
Peters and Yaffee's yearly creative golf event drives support for local charities.

26
FOCUSING ON NEW WORKPLACE CHALLENGES AND MARKETPLACE OPPORTUNITIES
ACEC Coalitions address issues affecting specific industry disciplines and explore emerging avenues for business growth.

32
THE POWER OF PARTNERSHIPS
Stakeholder education, strategic statehouse engagement, and leadership development help ACEC Wisconsin push legislation over the finish line.

36
ADAPTATION NEEDED AS PLI COSTS RISE
2023 PLI Carrier Survey finds the severity of insurance claims against firms have increased—along with premiums.

40
THE DELICATE ART OF PRESERVATION ENGINEERING
Renovating historic structures requires pioneering approaches and knowledge of past practices to provide today's solutions.

DEPARTMENTS

4 FROM ACEC TO YOU
Council facing important legislative year in 2024.

6 ACEC RESEARCH INSTITUTE
Diversity Roadmap leads the way to increased representation.

8 ADVOCACY IN ACTION
Progress on R&D amortization.

10 THE PRIVATE SIDE
P3 succeeds below the Capitol View Corridor.

44 RISK MANAGEMENT
Alligators in the sewer and other myths.

46 MERGERS AND ACQUISITIONS
As sellers cash out, buyers cash in.

50 MEMBERS IN THE NEWS
Tim Rock named CEO of TranSystems; Michelle White becomes CEO of Harris & Associates; Jessica Baker Daily appointed to president and CEO of Halff.

52 SPOTLIGHT ON COALITIONS
How to get involved with CAMEE and COPS.

COVER: GETTY IMAGES/PHILIP THURSTON

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ACEC's award-winning quarterly magazine *Engineering Inc.* provides expert analysis on all issues affecting the overall business of engineering. Other highlights include in-depth interviews with major policy makers whose decisions impact bottom lines; updates on critical advocacy issues and industry news, best practice management trends and marketplace projections, along with member firm innovations and announcements.

Council Facing Important Legislative Year in 2024

ACEC started 2024 with early successes. The National Defense Authorization Act included ACEC-backed language that increases the long-standing 6 percent cap on design fees to 10 percent for work performed for the Corps of Engineers and other Department of Defense agencies.

We're also pleased to report progress on fixing the research and development amortization requirement. The House of Representatives passed the Tax Relief for American Families and Workers Act of 2024 (H.R. 7024), which delays the rule until 2026.

At a time when the engineering field is needed more than ever to support the reinvestment and revitalization of vital public infrastructure, the amortization requirement disincentives innovation and unduly burdens small firms with a tax obligation that threatens their very existence. That's bad news for America's communities and economy.

ACEC is urging the Senate to expeditiously consider H.R. 7024 before engineering firms and other employers face their tax filing deadlines.

Our cover feature analyzes the challenges that occur with rising sea levels and land subsidence that are threatening coastline infrastructure nationwide and throughout the world, and the engineering solutions that are being considered in response *(see page 12)*.

In late January, the Engineering and Public Works Roadshow stopped in Frankfort, Kentucky, to showcase the Mountain Parkway Expansion, which improves transportation and connectivity in the eastern region of the state *(see page 17)*.

Our ACEC/PAC feature details the innovative planning and diligence among our PAC volunteers throughout the states, which helped to generate more than $1 million in annual donations once again in 2023 *(see page 18)*.

We also explore how historic regional structures are enjoying a rebirth through innovative designs that often leave the original façade standing while extensive modernization takes place inside *(see page 40)*.

We look forward to seeing you at our 2024 Annual Convention & Legislative Summit, May 13-16, at the Grand Hyatt in Washington, D.C., and for the Engineering Excellence Awards Gala on May 15.

Jay Wolverton
ACEC Chair

Linda Bauer Darr
ACEC President & CEO

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The ACEC Research Institute provides the engineering industry with cutting edge research, trend data, and economic analysis to help firm owners make decisions and delivers thought leadership that advances engineering's essential value to society.

The ACEC Research Institute wishes to extend its sincere appreciation to its generous contributors.

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Diversity Roadmap Leads the Way to Increased Representation

In November, the ACEC Research Institute released its first-ever *Diversity Roadmap* report using data gleaned from a six-month process designed to help member firms execute against their diversity, equity, inclusion, and belonging (DEI&B) goals.

The *Diversity Roadmap* is a comprehensive, data-driven tool that assesses the maturity of a firm's DEI&B program. It then takes it a step further, offering actionable suggestions on how a firm can make further progress on its diversity journey. With the *Roadmap*, firms have at their fingertips what they are doing well, what they can improve upon, and what they can do to bridge those gaps. To participate, firms were asked a series of questions about their practices in a variety of areas: workplace, workforce, marketplace, and supplier/community. They were then scored on their answers to specific questions in each of these sections, as well as overall.

The *Roadmap* also collected information about responding firms' size, location, revenue, and demographic composition of employees. Taken together, these data provide a unique look into the state of the engineering industry's progress toward a more diverse workforce.

And that progress is not merely a "nice to have" or even the "right thing to do." Chad Clinehens, president and CEO of Zweig Group, which sponsored the study, contends that creating an inclusive and diverse workforce has become nothing short of a business imperative. "This is about solving a business problem and empowering not only [firms] but the industry in becoming more competitive for workplace talent," he says. As employers across every sector continue to fight for qualified workers, workplace culture is an important front on the recruitment battlefield.

GETTY IMAGES/AJ_WATT

At the time of this writing, nearly 200 ACEC member firms have participated in the *Roadmap* initiative, signaling both a willingness and an appetite for creating those diverse workplaces. The data show that most member firms are early in their journey: 80 percent scored as "aspiring," 17 percent were assessed as "emerging," 3 percent were "managing," and 1 percent were "optimizing."

THE TONE FROM THE TOP

These numbers tell part, but not all, of the story. When drilled down, the data reveal that firm leaders show significant support for DEI&B issues. One important point: The majority of responding firms have a CEO or president who always or often articulates a commitment to those issues (68 percent). This support is less common down the leadership chain. The takeaway from these numbers is that implementing and integrating DEI&B initiatives will require "tone from the top" leadership at an organization's highest levels.

One of those leaders is Kimley-Horn President and CEO Steven Lefton, who stated that building a diverse workforce is critical to the future success of the engineering industry. "We are fortunate to be part of an industry that improves how people live, work, and play," he says. "Creating these inclusive communities is only possible by fostering diverse perspectives, skills, and backgrounds."

That sentiment was echoed by Mead & Hunt CEO Andy Platz. "When the diversity of the end user is reflected in our project teams…we are empowered to implement projects that address unique needs within a community," he says. "This intentionally inclusive approach is one of the ways we can best serve our clients and their communities."

WILLINGNESS AND INTEREST

Respondents to the study seem to agree in principle. More than two-thirds (68 percent) of firms have initiatives for creating an inclusive work environment for all employees; nearly as many (64 percent) have mechanisms in place for actively recruiting diverse candidates. Nearly half (49 percent) are seeking to broaden awareness of DEI&B topics, while 42 percent communicate the importance of these issues to their employees. Though 24 percent report having no DEI&B initiatives, these firms' participation in the study would seem to signal at least some level of willingness and interest.

Interestingly, the study found that smaller firms—those with 25 or fewer employees—provide a stark contrast to the largest firms (more than 500 full-time employees). While smaller firms are less likely to have DEI&B strategies in place, they demonstrate their commitment in other ways. At small firms, the leader of the firm is often also the leader of DEI&B initiatives, providing a direct tone from the top that larger, more complex firms may find more difficult to achieve.

Overall, the study found that, irrespective of size, engineering firms are aware of the need for DEI&B processes and initiatives, and they do not find DEI&B to be an unnecessary burden. The will exists; it's the implementation and execution that's uneven. Smaller firms lack the resources to stand up robust programs, while larger ones contend with the innate complexity of implementing wide-scale change.

Still, the authors contend, for engineering firms there is both opportunity and obligation in DEI&B—and the *Roadmap* provides clear actions that firms can take to seize the opportunity and rise to the obligation. And it has never been more important that they do.

"It's critical to be intentional about fostering inclusive, diverse, equitable cultures and workplaces where people of all backgrounds feel like they belong and thrive," says ACEC Research Institute Chair Mike Carragher, president and CEO of VHB. "Our industry is a remarkable one to be part of, and together we can accomplish tremendous engineering feats, truly making a positive impact on our communities and our world." ■

DIVERSITY ROADMAP SCORING

100% - 85%

OPTIMIZING: Outstanding Work! Your Firm's DEI&B Program Is Best in Class!
An optimized DEI&B program is a comprehensive and strategic initiative that is deeply integrated into the firm's culture, values, and business strategy. It is an ongoing journey that requires continuous effort, adaptability, and genuine commitment from all levels of the firm. Keep up the great work!

84% - 70%

MANAGING: Good Job! You're Doing Well.
A well-managed DEI&B program is effective in implementing and maintaining the firm's DEI&B initiatives but may be lacking in some areas. By incorporating a strategic approach and a few additional best practices, you should be able to become a best-in-class firm in no time. Revisit the survey to check your progress, and keep up the good work.

69% - 55%

EMERGING: Keep Broadening and Developing Your Plan.
An emerging program includes a strong commitment to creating a diverse, equitable, and inclusive firm where people feel they belong, but has a less developed and comprehensive strategy. Keep employing some of the best practices you have incorporated and develop a game plan for broadening your approach. Revisit the survey to check your progress, and try to incorporate best practice tips found in the assessment report.

BELOW 55%

ASPIRING: Congratulations! You've Taken the First Steps.
An aspiring program indicates a growing awareness and recognition of the importance of DEI&B, but the efforts are still relatively limited and may not be fully integrated into the firm's culture and practices. Recognizing there are areas of improvement you need to address is the first step in maturing your program. Check out the best practice tips in the assessment report for maturing your DEI&B program.

Continue on your DEI&B journey.
Access the *Diversity Roadmap* report by scanning the QR code.

Progress on R&D Amortization

The House of Representatives approved the Tax Relief for American Families and Workers Act of 2024 (H.R. 7024) by a bipartisan vote of 357 to 70 in January. The legislation addresses a key ACEC priority by delaying the R&D amortization requirement until 2026.

Other provisions include a delay of the limits on interest deductibility and full expensing of capital equipment purchases. The package also expands the child tax credit with an emphasis on low-income families.

Senate consideration could occur in March. Several senators have expressed interest in having the opportunity to consider changes to the legislation. ACEC and its coalition allies are pressing Congress to pass H.R. 7024 before engineering firms and other employers have to file their 2023 tax returns.

Engineering Services Exempt From Project Labor Agreement Rule

ACEC was successful in securing an exemption for A/E services subject to procurement rules under the Brooks Act from a final Biden Administration rule requiring the use of project labor agreements (PLAs) for federal construction projects larger than $35 million.

In its initial rulemaking, the administration proposed that all contractors and subcontractors engaged in federal projects agree to negotiate or become a party to a PLA with one or more appropriate labor organizations. In comments directed to the Federal Acquisition Regulatory Council, ACEC advocated that employees of engineering firms should be specifically excluded from PLAs due to the unique and critical roles engineering firms perform on construction sites. These include field representatives and surveyors who monitor that the work is being performed in compliance with design documents. To perform such work, these personnel must remain independent and objective, and the Council raised concerns that pushing engineering firms into PLAs could create a conflict of interest that could compromise project success and public safety, creating liabilities for the industry.

In the final rule, the Department of Labor clarified the language, making it clear that A/E services were exempt. The agency noted in response to concerns raised by ACEC and other entities that the final rule applies the PLA requirement to contractors or subcontractors "engaged in construction on the project" and specifically excludes professional architecture and engineering services that are covered by the Brooks Act.

ACEC Secures Design Fee Increase in Defense Bill

The National Defense Authorization Act includes ACEC-backed language that increases the long-standing 6 percent cap on design fees to 10 percent for work performed for the U.S. Army Corps of Engineers and other Department of Defense agencies.

The current 6 percent fee cap has been in place since 1939. While it is intended to apply to cost-plus fixed fee contracts, defense agency clients continue to use the limitation in negotiations on lump-sum contracts. Lifting the cap to 10 percent will give design firms greater latitude to negotiate contract terms that better reflect the qualifications of the design team, as well as the project goals, innovation, and the complexity and risk factors involved with the project.

"This reform is long overdue," said ACEC President and CEO Linda Bauer Darr. "The work that our industry performs for our federal clients delivers innovation and value to the taxpayer, and the contract terms should reflect that fact."

In a letter to the leadership of the House and Senate Armed Services Committees, Darr emphasized the importance of Qualifications-Based Selection being the driving factor in the procurement of engineering services. She noted that raising the fee cap is "a positive step in the right direction."

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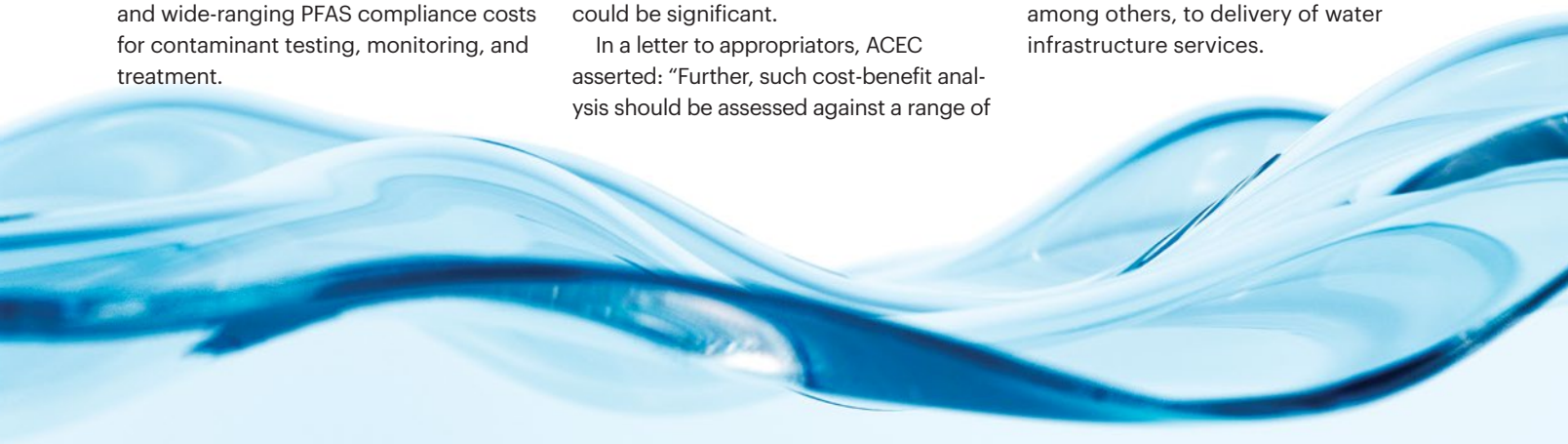
Risk-Cost-Benefit Analysis on Proposed PFAS Drinking Water Regulation

ACEC has added its voice to the water community calling upon Congress to direct the re-examination of the Environmental Protection Agency's (EPA's) cost-benefit analysis of proposed per- and polyfluoroalkyl substances (PFAS) regulation. Water utilities face numerous and highly variable threats to public health and safety. Expensive federal regulatory mandates to address risks, such as PFAS hazardous substance designation or maximum contaminant levels, can be highly disruptive to local delivery of essential services, public or private. Under proposed EPA regulations, local governments will be subject to new and wide-ranging PFAS compliance costs for contaminant testing, monitoring, and treatment.

The EPA's cost-benefit analysis asserts annual costs of $770 million and benefits of approximately $1.2 billion. In stark contrast, an engineering study commissioned by the American Water Works Association (AWWA) estimated annual costs of the proposed regulations to be between $2.5 billion and $3.2 billion. According to the study, estimated per-household costs are particularly painful for those served by smaller systems, with annual costs ranging from $10,090 to $11,150 per household per year for very small systems (less than 100 people), to $525 to $545 per household per year for systems serving up to 10,000 people. Effects on disadvantaged communities could be significant.

In a letter to appropriators, ACEC asserted: "Further, such cost-benefit analysis should be assessed against a range of exposure risks. Commitments of limited resources must be considered against expected risk reductions to be achieved by measures undertaken. To justify the prioritization of limited financial resources toward regulatory action, policy must be founded in defensible human health risk assessment in which the public and industry can have high confidence. Based on our review of the record comments in the recent PFAS rulemakings, we believe that the EPA has yet to demonstrate that PFAS risks warrant extraordinary follow-on compliance expenditures."

ACEC will continue to collaborate with the water community to meet the challenge of emerging contaminants, among others, to delivery of water infrastructure services.



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Funding for the Clean Water and Drinking Water State Revolving Funds

ACEC, in collaboration with the water infrastructure community, has urged Congressional funding of the Clean Water and Drinking Water State Revolving Funds (SRFs) to the maximum authorization in federal law, $3 billion each, for fiscal year 2024. State and local governments working with the business of engineering have long developed effective delivery of safe and reliable water infrastructure under the SRF and Water Infrastructure Finance Innovation Act (WIFIA) programs.

Until fiscal year 2022 and fiscal year 2023, Congress routinely appropriated about $2 billion annually for both SRF programs, under which the EPA made grants to states and from which loans were provided to local governments. These state programs developed and maintained important processes for planning and prioritization. The program fostered reliable financing for affordable drinking water and wastewater infrastructure.

With Infrastructure Investment and Jobs Act (IIJA) funding, beginning in fiscal year 2022 and continuing into fiscal year 2023, direct Congressional grants to projects disrupted the SRF processes. ACEC does not oppose direct Congressional grants for water infrastructure, however, the current practice threatens the performance of the traditional programs and raises expectations of increased costs and risks to the health and safety of communities. IIJA funding should be additional to, i.e., supplemental, not in lieu of the long-standing funding levels and practices of the SRF and WIFIA programs.

ACEC will continue to request that Congress restore the past practice of reliable base-funding levels of drinking water and wastewater SRF and WIFIA programs.

For More News

For legislative news, visit ACEC's *Last Word* blog online at www.acec.org.

Large roof overhangs and solar fins provide protection from the sun at the new Moody Center in Austin, Texas.

P3 Succeeds Below the Capitol View Corridor

Construction was done below grade to preserve view of the state Capitol.

BY DIANA ALEXANDER

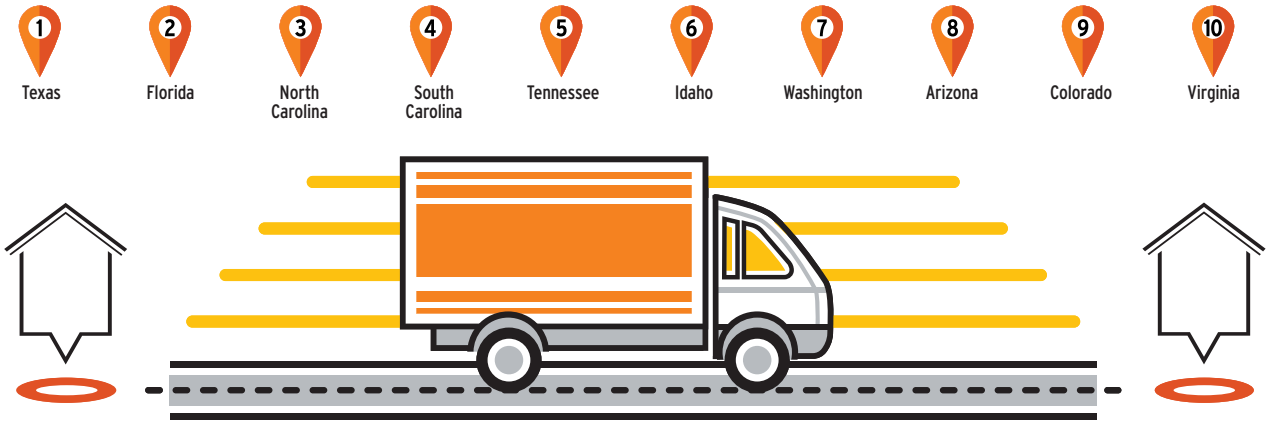
The project team for the new Moody Center in Austin, Texas, came together at ACEC's Fall Conference last year for a session to discuss their public-private partnership (P3) with members. Speakers included the University of Texas at Austin's Executive Director of Campus Construction Dan Cook (the project's client), Gensler Principal and Managing Director Todd Runkle (the project's architect), and Walter P Moore Structures Principal and Project Engineer Brian Caudle. The speakers discussed the project's challenges and the structure of the P3, composed of Oak View Group, Live Nation/C3 Presents, actor Matthew McConaughey, and the University of Texas at Austin (UT Austin).

The Moody Center is a 530,000-square-foot multipurpose live entertainment venue on land owned by UT Austin. It was built on a former parking lot and financed through a $375 million partnership. The project was delivered on time and on budget and hosted 1.5 million fans in its first year. The Moody Center also achieved LEED Gold in February with 95 percent construction waste diverted, as well as a 36 percent indoor water use reduction, 71 percent outdoor water use reduction, and 13 percent energy cost savings.

Speakers outlined some of the obstacles that were overcome during the project:

- The arena had to be built below grade due to the legal restrictions on construction in the Capitol View Corridor to preserve the line of sight of the Texas State Capitol.
- It was the first major P3 for UT Austin with Oak View Group.
- In lieu of columns, the steel roof trusses spanning 330 feet were designed to hold up 250,000 pounds of rigging to accommodate even the largest touring events. The tension wire grid allows for faster, more efficient rigging.
- Poorly documented existing utilities were also relocated, and Red River Street was realigned.
- The Erwin Center was demolished to expand the Dell Medical School.
- Three heritage trees with significant root zones had to be relocated on campus, an expensive endeavor.

U-HAUL GROWTH INDEX 2023: 10 TOP STATES BY MIGRATION GROWTH



ALLA KOALA/GETTY IMAGES

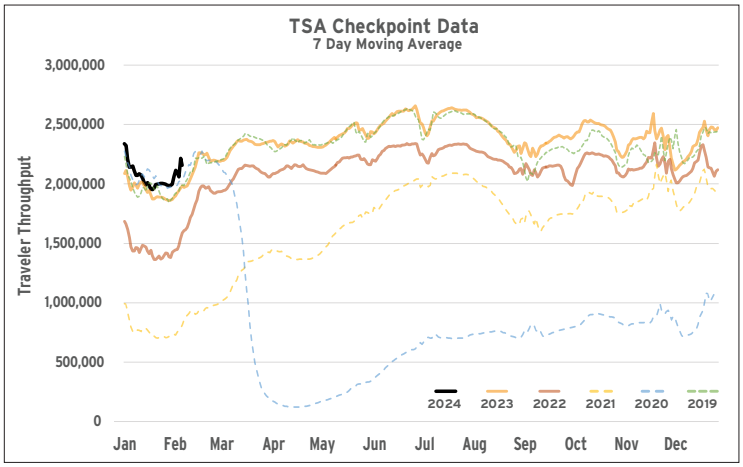
Source: U-Haul

The Value of High-Frequency and 'Alternative' Data Sources

During periods of economic uncertainty, economists and analysts look to high-frequency and "alternative" data to provide insights sooner than other sources that may have lags in their reporting periods. The *U-Haul Growth Index* is an alternative data source, ranking the top 10 states experiencing one-way migration from inbound trucks only. When ACEC reviewed the 2021 results, growth was seen primarily in the Sun Belt region from a pandemic-induced migration. In 2022 and 2023, the pattern shifted slightly to focus on the Southeast and Southwest regions.

Over the last three years, states experiencing the highest consecutive growth rates included Texas and Florida (see the graphic above for the top 10 states). According to PwC and the Urban Land Institute's *Emerging Trends in Real Estate 2024* report, the top five markets to watch for the highest real estate prospects (commercial and residential) in 2024 are Nashville, Tennessee; Phoenix; Dallas/Fort Worth; Atlanta; and Austin, Texas. States with the highest demand for outbound trucks were California, Massachusetts, and Illinois. California has had the largest net loss for the last four years. This means these states are seeing the largest outward migration and population declines due to people moving away.

High-frequency data is released at a rapid rate—more often than monthly—providing economists with near real-time data. This data type was relied on heavily during the COVID-19 pandemic, as companies needed data sooner. A few of these data sources include mobility indices, the *OpenTable Restaurant Industry Index*, credit card transactions, box office receipts, hotel occupancy data, and commuter rail statistics. This data tells a story of consumer behavior and where it is trending. From the Transportation Security Administration (TSA) data below, we can infer the return of demand in the travel and leisure industry as numbers return to pre-pandemic levels.



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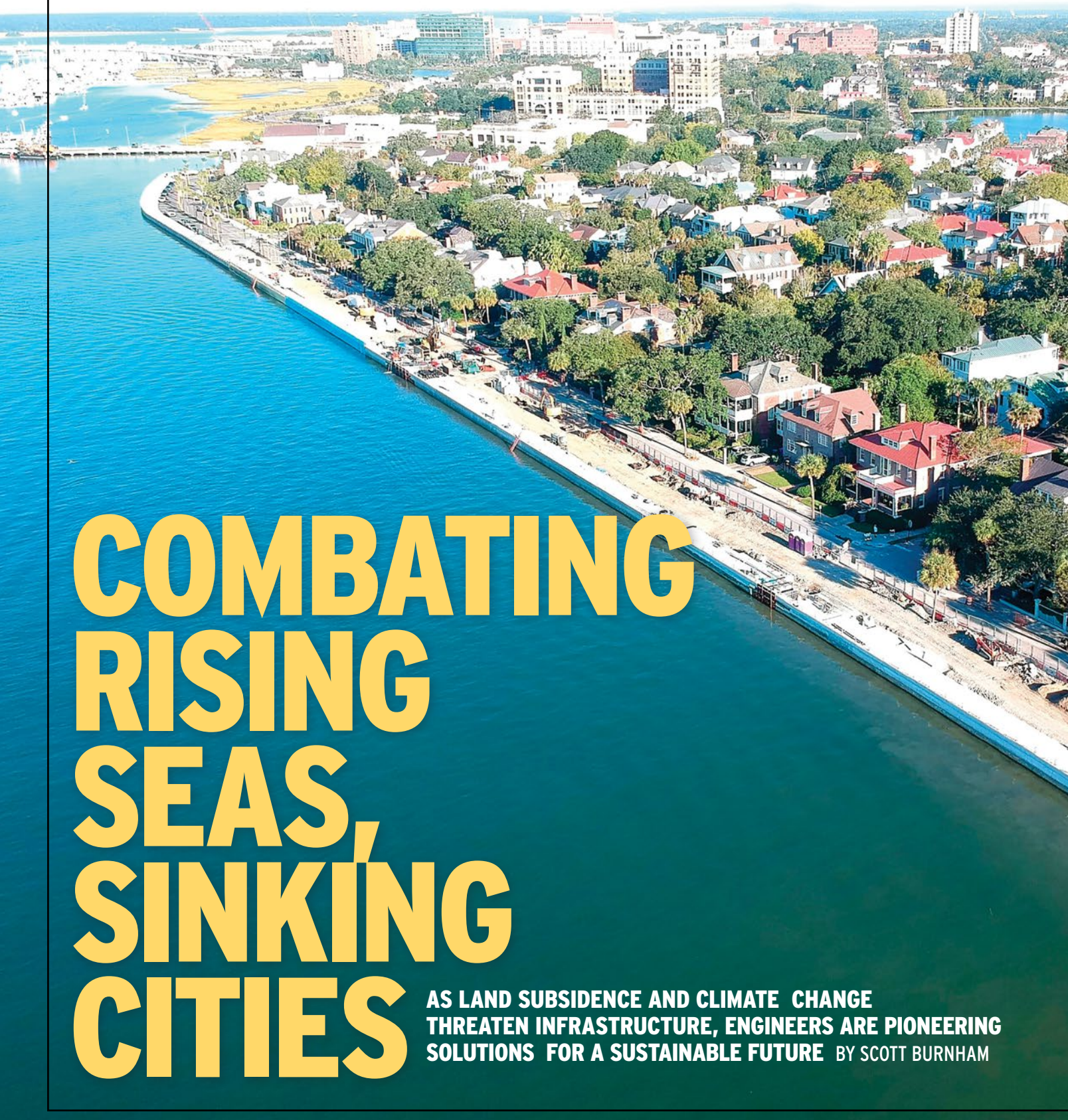
The Private Side column in *Engineering Inc.* focuses on the private-sector markets listed above, and information and insights on economic data relevant to the industry. For more on these topics, subscribe to ACEC's bimonthly *Private Industry Briefs*: **https://www.acec.org/resources/private-market-resources/#newsletter.**

***Diana Alexander**, CPSM, is ACEC's director of private market resources. She can be reached at **dalexander@acec.org**.*



The city of Charleston's Low Battery renovation shored up a century-old seawall.

COMBATING RISING SEAS, SINKING CITIES

AS LAND SUBSIDENCE AND CLIMATE CHANGE THREATEN INFRASTRUCTURE, ENGINEERS ARE PIONEERING SOLUTIONS FOR A SUSTAINABLE FUTURE BY SCOTT BURNHAM

In 1977, a photo was taken of hydrologist Dr. Joseph F. Poland standing next to a utility pole in California's San Joaquin Valley. Signs on the pole indicate where the ground level was in a given year: At the top, one reads 1925; further down, 1955; at his feet, 1977. The ground had sunk almost 30 feet in about 50 years as a result of groundwater pumping. One would think the image would have become a wake-up call to the dangers of land subsidence. It was not.

A recent study in *Nature Communications* found that cities along the U.S. East Coast—home to roughly 118 million people—are sinking at a rate of roughly 0.12 inches a year. Across the nation, more than 17,000 square miles in 45 states are sinking. The situation is even worse in some places around the globe.

Mexico City, home to 21 million people, has sunk more than 32 feet in the last 60 years. Areas of Jakarta, Indonesia, population 11.2 million, have sunk 8.2 feet in the last 10 years and continue to sink almost 6 inches per year—a dilemma that has ultimately forced the Indonesian government's decision to build a new capital city more than 1,200 miles away.

In its most basic definition, land subsidence happens when conditions change below ground. The changes can be natural, including soil settling, permafrost melting, and organic material such as peat compacting over time. Others are human-induced: the weight of buildings compacting soil, underground mining, oil extraction, and fracking. Then there's groundwater extraction. As a recent headline in *The New York Times* states, "America Is Using Up Its Groundwater Like There's No Tomorrow." And that's a problem.

PHOTOGRAPH BY RICHARD IRELAND, U.S. GEOLOGICAL SURVEY

Hydrologist Dr. Joseph F. Poland stands next to a utility pole in the San Joaquin Valley. The signs indicate the elevations of the land surface in 1925, 1955, and 1977.

OVERPUMPING GROUNDWATER

"Land subsidence is greatly enhanced by groundwater pumping," says Paul Chinowsky, director of Resilient Analytics, a consultancy that advises engineering firms on climate issues. "We are pumping more than is being restored into our underground aquifers."

Overextraction of groundwater is responsible for more than 80 percent of known land subsidence occurrences in the U.S., according to the U.S. Geological Survey. As populations grow and groundwater extraction continues, land subsidence will only get worse—because once land sinks, it doesn't rise again.

"Damages due to floods, earthquakes, or landslides are large and evident but can be resolved over time," says Professor Pietro Teatini, of the department of Civil, Environmental, and Architectural Engineering at the University of Padova in Italy, and chair of the UNESCO Land Subsidence International Initiative. "The loss of elevation due to land subsidence is more difficult to notice, but it is permanent. Returning to the original condition is impossible."

He explains that the reason land subsidence is irreversible is because soil doesn't act like a sponge once it compacts. Adding water may prevent soil from compacting more, but it will never return to its original state. "Land subsidence is largely unrecoverable," Teatini says, "because soil is more compressible when its pore pressure reduces due to groundwater pumping than when groundwater pressure recovers."

RELATIVE SEA LEVEL RISE

Land subsidence often occurs slowly, which is one of the reasons cities neglect it. "Cities don't think about how that small number impacts other events, but land subsidence essentially amplifies everything," Chinowsky says.

Amplification comes in the form of relative sea level rise—the combined impact of sinking land and rising seas. In areas north of Tampa Bay, Florida, groundwater pumping has caused land to sink up to 0.24 inches per year, which will lower ground levels nearly 6.5 inches by 2050 if the rate of subsidence persists. Add the Florida Climate Center's prediction that sea levels will rise 10 inches to 12 inches during the same period, and parts of Tampa Bay could face a relative sea level rise of 16.5 inches to 18.5 inches by 2050. This would put the city on track to be partially underwater by 2100.

"We've got to work with the hazards and not against the hazards. We have to look at everything from a risk perspective. That is going to require changing our design process and our thought process."

PAUL CHINOWSKY
DIRECTOR, RESILIENT ANALYTICS

The danger isn't only to coastal areas. Depleting groundwater further inland can cause ground in one area to sink while a neighboring patch holds firm. When that happens, land fissures appear. Sinking land can also magnify flooding problems along major rivers and inland bodies of water. When land subsidence occurs, it tends to do so on an angle, Chinowsky says. So, during a storm surge, angled land channels water due to subsidence, essentially creating a path for that storm surge to quickly move inland.

RECHARGING AQUIFERS

Land subsidence can't be reversed, but it can be stabilized. Managed aquifer recharge is one process, which essentially involves pumping water back into aquifers to stabilize ground levels. The city of Norfolk, Virginia, is hoping it will be a solution.

Areas of Norfolk are sinking more than 0.14 inches per year—twice the rate that its waters are rising. Its Sustainable Water Initiative for Tomorrow (SWIFT) is an aquifer recharge project to replenish the Potomac aquifer, eastern Virginia's primary groundwater supply. SWIFT will pump purified water back into underground aquifers to increase groundwater stores for future consumption—and hopefully slow and stabilize land subsidence.

With increasing storm surges and rainfall, the question arises: Instead of propping up sunken land, could cities get ahead of the problem by using stormwater to naturally replenish groundwater resources? Unfortunately, most cities have pushed themselves into a corner. Stormwater infrastructure is designed to speed water away from populated areas as quickly as possible, preventing it from being able to seep back into the ground to recharge groundwater stores.

Chinowsky says cities should consider how to best utilize rainwater to recharge their aquifers naturally. "We need to think about not pushing water away, but about where the water actually needs to go," he says. "It's not just rethinking how we create things, but rethinking land use so we can allow water to recharge aquifers. And that really goes against everything that we've been doing for 100 years."

LIFE ON RECLAIMED LAND

The city of Charleston, South Carolina, has been rethinking how to protect itself from sinking land and rising seas. As Dale Morris, chief resilience officer and director of emergency management for the city of Charleston, says, "Charleston is the canary in the coal mine. We have every type of flood risk known."

About 50 percent of the Charleston peninsula is built on filled and reclaimed land. Those and some other areas of the city are now sinking 0.12 inches to 0.16 inches a year, says Morris, due to the natural/geologic processes of soil compacting. That equates to an inch of land subsiding every six years or so. If sea levels rise an inch every two years, which is what the city is planning for, it will have to deal with about four inches of relative sea level rise every six years.

Since 2010, Charleston's population has increased by over 34 percent. "All that development, done unwisely, can exacerbate problems," Morris says. To protect against future threats, he says developers now must follow Charleston's stormwater design standards "to make sure they're storing more stormwater, managing more stormwater in a better way, and are thinking of the outflow conditions with a certain amount of sea level rise."

The city has also invested $200 million in a deep-level tunnel project to cope with increased stormwater in lower land elevations.

Another concern is shallow groundwater flooding. "With the hydrostatic pressure from the Atlantic Ocean and our rivers, the shallow groundwater is going to rise up as the seas rise," says Morris. "And since we're so flat, we are starting to see that—and we're starting to worry."

Charleston is anticipating 14 inches of sea level rise by 2050. "That informs a lot of our planning," Morris says. "It's not protection or retreat. It's developing the right way and helping the areas that are vulnerable now and going to get more vulnerable because of the changing climate."

WEATHERING DISPLACEMENT

As cities sink and sea levels rise, so does the risk of climate gentrification. *Scientific American* reports that over 1 million people in Miami alone may be displaced due to climate change by 2100. More than half of Miami-Dade County will feel pressure to relocate—and those who can't afford to do so will have fewer options.

Wealthy locals and retirees have always preferred waterfront homes in Miami Beach. Yet with the combined threat of sea level rise and areas sinking up to 0.12 inches a year, residents and developers are seeking higher ground. Sitting at 10 feet above sea level, the immigrant neighborhood of Little Haiti has become prime real estate.

Pamela Yonkin, sustainability and resiliency director for HDR, explains, "The amount of land we can build on is going to decrease on the coasts. Places that are higher up, like Miami's

"There are a lot of ways to build infrastructure to protect against climate impacts, and a community's preference is an important consideration when choosing which course to take."

PAMELA YONKIN
SUSTAINABILITY AND RESILIENCY DIRECTOR
HDR

Little Haiti, are going to become more desirable. An increase in demand, combined with a fixed or diminishing supply of land, often leads to increased prices on existing real estate."

It's something Little Haiti is already experiencing, forcing longtime residents out of the neighborhood, according to *The New York Times*. In April 2012, the average home value in Little Haiti was $58,403; in April 2023, it was $482,557. Similar situations are occurring in other areas of Miami, such as Liberty City (8.5 feet above sea level) and West Coconut Grove (10 feet above sea level).

Yonkin encourages engineering firms to think about how a potential infrastructure project will affect all members of a community during the early planning stages. That way, they can seek input from the public and weigh the risks and benefits of different infrastructure alternatives before key decisions are made.

"Gentrification is not a new issue—it is just new in this context—and some of the tools we use are relevant," she says. "We encourage our clients to consider things like mixed income development, inclusionary zoning policies, and incentives to control displacement."

Charleston completely overhauled the Low Battery Seawall to help mitigate storm surges and create spaces for outdoor recreation.

MULTIFUNCTIONAL INFRASTRUCTURE

To maximize the potential of the existing land while also contributing to the public well-being, Morris advocates for infrastructure with multiple functional benefits.

"Engineering communities are really good at developing single-purpose infrastructure, but they have to do more than that when they look at land use and green infrastructure," he says. "It isn't a neat and tidy box of 'Go solve this engineering problem.' It's people, it's place, it's urban fabric, it's greenery, it's stormwater ponds that are attractive—it's all those things."

Morris cites Charleston's Low Battery Renovation project as an example. The original Low Battery was a seawall installed 100 years ago that was showing its age and inadequacy as tides began overwhelming it. So the city did a complete overhaul of the site. It raised the seawall, rebuilt the street next to it, added a wider walking path and parklets, and made all of it Americans with Disabilities Act-accessible.

"We have a multifunctional tidal management structure to help us deal with storm surges," Morris says. "People walk it all the time, people fish off it and are just delighted with how it looks and how it functions. It's a combination of really good engineering, good urban design, good transportation—all put together."

Multipurpose infrastructure that puts the community "front and center" is essential. "There are a lot of ways to build infrastructure to protect against climate impacts, and a community's preference is an important consideration when choosing which course to take," Yonkin says.

FUTURE OBLIGATIONS

To effectively address sinking land and rising seas, Chinowsky believes engineers will need to reconsider the relationship between the built environment and nature. "The 1970s, when a lot of infrastructure and urban expansion took place, was a time when engineering had a perspective of man over nature—any-

"The loss of elevation due to land subsidence is more difficult to notice, but it is permanent. Returning to the original condition is impossible."

PIETRO TEATINI
PROFESSOR, UNIVERSITY OF PADOVA
LAND SUBSIDENCE INTERNATIONAL INITIATIVE CHAIR
UNESCO

thing that was there, we could conquer it," he says. "If this mentality continues, we're going to lose in the long run."

Yonkin agrees, particularly when that approach comes with costs of constant upkeep. "A roadway or water system built in a vulnerable area that needs to be repaired over and over again is not a good use of public funds, even if from an engineering perspective we can fix it," she says.

It's time to think differently, says Chinowsky. "We've got to work with the hazards and not against the hazards. We have to look at everything from a risk perspective," he says. "That is going to require changing our design process and our thought process. We have to get out of this mindset that design is looking at books and looking at tables and following the standards."

That is because the standards often set requirements based on historical climate data, which may no longer be relevant given the rapid pace of climate change. Designing to the standards may meet today's requirements, but firms must also prepare for what's ahead. "Is what we're designing today meeting both the requirements of today and of the future?" Chinowsky says. "Are you meeting the obligation of that infrastructure in 20 or 30 years?"

As the climate and the land continue to change, engineers must rise to the occasion and work to ensure a sustainable future. ■

Scott Burnham *is a writer based in Waltham, Massachusetts. He has written for* Architizer, Metropolis, *Skanska, and* The Guardian.

TOKYO RETHINKS THE ROLE OF RAIN

Tokyo's response to land subsidence shows how rethinking the role of rain can stabilize a sinking city's future.

Starting around 1910, Tokyo's Kōtō City district began drawing heavily from the city's groundwater to support an exploding population and burgeoning industrial activities. Excessive pumping in Kōtō City and other parts of Tokyo caused land to sink roughly 15 feet over the course of 50 years, with some areas losing about 4 inches each year; the peak year was in 1968, when some areas lost up to 9.5 inches of ground elevation.

In the early 1970s, the Tokyo Metropolitan Government (TMG) became serious about tackling land subsidence. It implemented a range of regulations to reduce groundwater pumping and increase the permeation of rainwater infiltration to recharge groundwater stores in green areas and farmland. Shortly after the regulations took hold, land subsidence in the city leveled off.

The city's grand pivot was born from a simple principle: Instead of barricading against rain, let the rain in as nature intended. TMG assessed that the majority of Tokyo was covered by impermeable surfaces and infrastructure—such as buildings, roads, concrete viaducts, and drainage systems. Yet beneath the city's surface was a layer of highly permeable red soil, which historically gave the area abundant groundwater resources. TMG realized that a means of recharging groundwater stores was already in place—it just needed to let the rain reach the soil, and nature would take over.

So TMG established extensive guidelines for rainwater permeation: Any new groundwater pumping facilities must install rainwater infiltration facilities to ensure an equilibrium between the volume of water pumped and that which is permeated back through the soil. Plans were even made for expanding water-permeable pavement and rainwater infiltration measures in the city's general flood control and urban development project.

As a result, areas that once experienced nearly 10 inches of subsidence each year now register at about 0.4 inches annually.

"By working with rain instead of guarding against it, Tokyo not only reduced its risk of land subsidence, it restored nature's self-regulating system," says Professor Pietro Teatini, of the department of Civil, Environmental, and Architectural Engineering at the University of Padova in Italy, and chair of the UNESCO Land Subsidence International Initiative.

"It's not protection or retreat. It's developing the right way and helping the areas that are vulnerable now and going to get more vulnerable because of the changing climate."

DALE MORRIS
CHIEF RESILIENCE OFFICER
DIRECTOR OF EMERGENCY MANAGEMENT
CITY OF CHARLESTON

PAVING THE WAY

Kentucky's Mountain Parkway Expansion project highlights how engineering and public works improve communities

AFTER
The expansion will improve safety by modernizing the roads, creating safer interchanges to give drivers more time to merge, and eliminating dangerous curves around the mountain.

DURING
The Mountain Parkway Expansion during construction.

At the end of January, the Engineering & Public Works Roadshow made a stop in Frankfort, Kentucky, to spotlight the Mountain Parkway Expansion, a sweeping infrastructure project designed to improve transportation and connectivity between eastern Kentucky and other parts of the state.

The event brought together Gov. Andy Beshear; Kentucky Transportation Cabinet Secretary Jim Gray; Federal Highway Administration Kentucky Administrator Todd Jeter; state elected officials; ACEC-KY Executive Director Russell Romine; and leaders from the American Council of Engineering Companies (ACEC), the American Public Works Association (APWA), and the American Society of Civil Engineers (ASCE).

The Engineering & Public Works Roadshow is a partnership of ACEC, APWA, and ASCE, which have joined together to shine a spotlight on what successful infrastructure investment means for the nation's economy, jobs, the environment, and our future.

With decades-long connections to political leaders in Kentucky and representing the ACEC-KY member firms that designed the project, Romine secured participation by Beshear and Gray in the Roadshow event and connected their staffs with the Roadshow leaders in Washington, D.C., to help bring the event to fruition.

ACEC-KY Executive Director Russell Romine speaks at the Roadshow event at the State Capitol building.

The Mountain Parkway Expansion project will improve safety by modernizing the roads, creating safer interchanges to give drivers more time to merge, and eliminating dangerous curves around the mountain. The project will widen the existing two-lane highway to a four-lane highway, making it safer and more efficient to move people, goods, and services throughout the state. Now more than 70 percent completed, the second-to-last segment of the project is expected to be finished in 2027. Beshear has publicly called for completion of the project by the end of his second term in December 2028.

"This event is a celebration for engineers and public works excellence as we spotlight the Mountain Parkway Expansion and the investments being made for safer travel and generational economic development for the Commonwealth," said Romine. "The Roadshow partnership is a national effort dedicated to the celebration of transformational engineering examples showcasing what can happen when federal and state governments work together to fund improvements in our most critical infrastructure."

Roadshow organization member firms that have been involved with this project include Qk4; HMB Professional Engineers; Stantec; HDR Strand Associates; American Engineers, Inc.; EA Partners; JMT (formerly Vaughn & Melton); HW Lochner; WSP; and Palmer Engineering, which is serving as lead designer for the design-build team on the final segment of the project.

"We are the generation that is delivering on this decades-old promise," said Beshear, "and the Mountain Parkway Expansion wouldn't have been possible without the hard work of our folks in the engineering and public works sectors." ■

2023 ACEC/PAC WRAP-UP:

REACHING NEW HEIGHTS

THE ORGANIZATION ACHIEVED SIGNIFICANT MILESTONES LAST YEAR, REFLECTING ITS COMMITMENT TO ADVANCING THE ENGINEERING INDUSTRY'S INTERESTS

BY BOB VIOLINO

The ACEC Political Action Committee (ACEC/PAC) accomplished another record year in 2023 thanks to the efforts of an army of volunteers. Despite challenges such as an uncertain economy and workforce shortages, the organization hit the $1 million mark in contributions at the ACEC Fall Conference in October—the earliest it had ever achieved that milestone. And 46 states met their contribution goals.

ACEC/PAC is the only political organization in the nation that advocates for engineering firms and their legislative interests. It's regulated by the Federal Elections Commission, and it's overseen by a committee of PAC Champions, made up of engineering firm executives who belong to ACEC Member Organizations in several states.

ACEC/PAC plays a major role in the success of ACEC's advocacy program, supporting federal candidates on a bipartisan basis who champion the engineering industry's legislative priorities in Congress. It is currently the largest PAC in the design industry, and it ranks among the top 2 percent of all association PACs.

"ACEC/PAC is an essential tool in ACEC's advocacy arsenal to protect the business interests of our member firms. Each year, ACEC/PAC reaches new heights and continues to break fundraising records due to the hard work of members who understand the importance of supporting our advocacy work in Washington," says ACEC Chair Jay Wolverton.

"We are proud to be the largest federal PAC in the engineering and design services industry, and in the top tier of all industry PACs," says Jason Matson, principal at Kimley-Horn and ACEC/PAC chair. "We accomplish our goals through a grassroots effort of PAC Champions, ACEC Member Organization leadership, and a broad base of more than 3,000 independent contributors."

THE NATIONAL PICTURE

During the 2023 Advocacy Team campaign, the organization made significant progress in advancing key legislative initiatives. "One of our major accomplishments was the successful enactment of the Infrastructure Investment and Jobs Act from the previous Congressional cycle," Matson says. "This historic legislation will have a transformative impact on our industry and contribute to the revitalization of our nation's infrastructure."

The Advocacy Team also actively recommends the expansion of Qualifications-Based Selection as well as Contracting Out, in which the public sector contracts with private consulting firms. These practices "are critical to ensuring fair and competitive practices in our industry," Matson says. "We have also worked toward enhanced tax policies that include incentives for firms to assist employees with student loan debt."

ACEC/PAC made significant progress toward one of its main objectives: to have all 51 Member Organizations exceed their state goal. "We are getting closer to making this a reality," Matson says. "We have actively partnered with states that have struggled to meet their goals, providing support and resources to help them succeed."

Overall, the 2023 ACEC/PAC campaign was marked by noteworthy achievements and a steadfast commitment to advancing the interests of the industry, Matson says. "We will continue to work diligently to ensure a favorable business environment and a prosperous future for all engineering and consulting firms."

GETTY IMAGES/VLADTEODOR

"We will continue to work diligently to ensure a favorable business environment and a prosperous future for all engineering and consulting firms."

JASON MATSON
CHAIR, ACEC/PAC
PRINCIPAL
KIMLEY-HORN

A BLUEPRINT FOR SUCCESS

ACEC/PAC's goal for 2024 will be to broaden its individual contributor base further, Matson says.

The Advocacy Team will remain focused on key priorities, such as the Federal Aviation Administration funding reauthorization and the Water Resources Development Act, Matson says. "Additionally, we recognize the importance of increasing the pipeline of talent into our industry," he says. "We strongly support increased investment in STEM education and the expansion of the cap on H-1B visas, which will help attract and retain skilled professionals."

One of the challenges ACEC/PAC is working to address is the need to increase the involvement of younger professionals. "With many industry professionals approaching retirement, including those who are strong contributors to the PAC, it is crucial to maintain a strong pipeline of contributors to ensure the PAC's growth for years to come," Matson says.

Kimley-Horn, which has maintained a decades-long legacy of involvement with ACEC, is an example of how a firm can contribute successfully. In multiple states, it has had active staff engaged on the state board, as well as in state legislative advocacy efforts.

"Often, that state-level participation was a gateway to getting involved in national committees, the annual Capitol Hill visits during the Annual Convention, as well as in ACEC/PAC giving," Matson says. "Today, Kimley-Horn owners see it as their responsibility to contribute to ACEC's legislative efforts personally and voluntarily, given the significant return our firm—as well as all member firms—receive on that investment."

"ACEC/PAC provides us the opportunities for one-on-one conversations with lawmakers on very important issues."

JONATHAN CURRY
EXECUTIVE DIRECTOR, ACEC/MN

BY THE NUMBERS

$1,300,534 Total receipts for 2023
$1,277,645 Total receipts for 2022

2023 ACEC/PAC Totals

37 Capitol Club Members ($5,000)
66 Chairman's Club Members ($2,500+)
276 Millennium Club Members ($1,000-$2,499)
3,154 Unique contributors

$893,950 raised from the four PAC sweepstakes programs, with **7,838** entries

20 member firm federal PAC contributions totaling **$60,325**

Giving the max contribution of **$5,000** were: Michael Baker, Black & Veatch, CDM Smith, Hanson Professional Services, Huitt-Zollars, KCI Holdings, Terracon, and TranSystems

Top Member Firms in Employee Contributions

Kimley-Horn and Associates, Inc.: **$108,605.65**
HDR: **$23,960.00**
HNTB Corporation: **$22,015.00**
BGE, Inc.: **$16,000.00**
WSP USA: **$14,686.60**
Terracon Consultants, Inc.: **$14,125.00**
Chen Moore and Associates: **$13,680.00**
Gannett Fleming, Inc.: **$13,320.00**
KCI Technologies, Inc.: **$12,785.00**
Benesch: **$12,425.00**

State Member Organization Achievements

46 states achieved their PAC goal
California raised the most (**$108,507**), and **Illinois** had the most contributors (**315**)
Indiana was the first state to achieve its PAC goal
Connecticut raised **253 percent** of its PAC goal

Kimley-Horn's president and CEO Steve Lefton sets the example for firm leaders with his active participation in the ACEC Research Institute and the Design Professionals Coalition, and as an ACEC/PAC Capitol Club contributor, Matson says.

STATE CHAMPS

The PAC is a "great tool" for Minnesota, says Jonathan Curry, executive director of ACEC/MN. "ACEC/PAC provides us the opportunities for one-on-one conversations with lawmakers on very important issues," he says. "We do not host fancy fundraisers.

"Our member firms are seeing how active ACEC/MN is on issues that are important to them, and I believe more of our member firms now see the value of supporting our PACs."

CHRIS LEVERETT
REGIONAL LEADER
KIMLEY-HORN

Instead, we focus on how PAC contributions are being used to advance the business of engineering in Minnesota."

In 2023, ACEC/MN held several discussions with members of its congressional delegation. "Our members are focused on removing Minnesota's Federal Acquisition Regulation exemption, which allows the state to cap overhead rates," Curry says.

Over the past four years, ACEC/MN has tripled its contributions, Curry says. In 2023, it raised nearly $80,000 between the state and federal PAC giving. "This has been done by simplifying the giving process and aligning our in-state giving with our federal PAC goals," he says.

ACEC/MN's fundraising success has come from a focus on communicating to member firms the value of the PAC and on having an organized and persistent approach to fundraising, says Chris Leverett, regional leader at Kimley-Horn.

"Each year, we start our fundraising by publishing a letter that summarizes the great work ACEC/MN and ACEC National have done on behalf of our industry, and we state our legislative objectives for the upcoming year," Leverett says.

The organization has made an effort to share how much it is interacting with state and federal representatives, including by spreading the word on social media.

"Our member firms are seeing how active ACEC/MN is on issues that are important to them, and I believe more of our member firms now see the value of supporting our PACs," Leverett says.

At the beginning of each year, the PAC committee develops a list of fundraising objectives, Leverett says. This includes goals for the total number of contributors, total number of new contributors, number of contributors at larger contribution levels, and number of firms with employees who contribute.

Developing a fundraising target allows the committee to better communicate with Champions who are willing to lead the effort at their firm, Leverett says. "Throughout the process, we use friendly competition between those firms to have fun and promote more PAC support."

Each member of the PAC committee and most members of the board are assigned the responsibility to follow up with the Champions at member firms and encourage them to achieve their fundraising target.

"Members of the PAC committee are also asked to connect with firms who have not typically supported the PACs and to connect with people who have typically been large contributors," Leverett says. "By breaking down our total fundraising goal into smaller bites, each of our member firms feels a greater opportunity and responsibility to help us achieve our total fundraising goals."

It also has been helpful to make fundraising more visible at annual events, Leverett says. "We recognize our largest supporters by name—people and firms—and provide lapel pins to our PAC supporters," he says. "The lapel pins are very popular and add to the sense of friendly competition at industry events."

Identifying PAC Champions and setting clear goals for contributors has allowed the organization to limit the number of times it solicits supporters for contributions, Curry says. Most importantly, it enables ACEC/MN to hit its goals early in the calendar year.

While the PAC did not face major challenges in 2023, "sustaining our giving year to year is always a major concern," Curry says. "We alleviate this concern by identifying PAC Champions at member firms and increasing participation in our state and federal PAC committee. Each year, we also publish a kick-off report that clearly identifies our state and federal legislative goals."

This gives contributors confidence that their donations to the PAC are being put to good use on behalf of their profession, Curry says.

In Pennsylvania, "our involvement in the PAC starts with the board," says Roseline Bougher, president and CEO at A.D. Marble & Co. "Our goal is to set the example and then reach out to our member firms."

The biggest challenge for ACEC/PA is getting participation from individuals. "It is a challenge to convince individuals to write a personal check," Bougher says. "The current political environment makes this even more challenging."

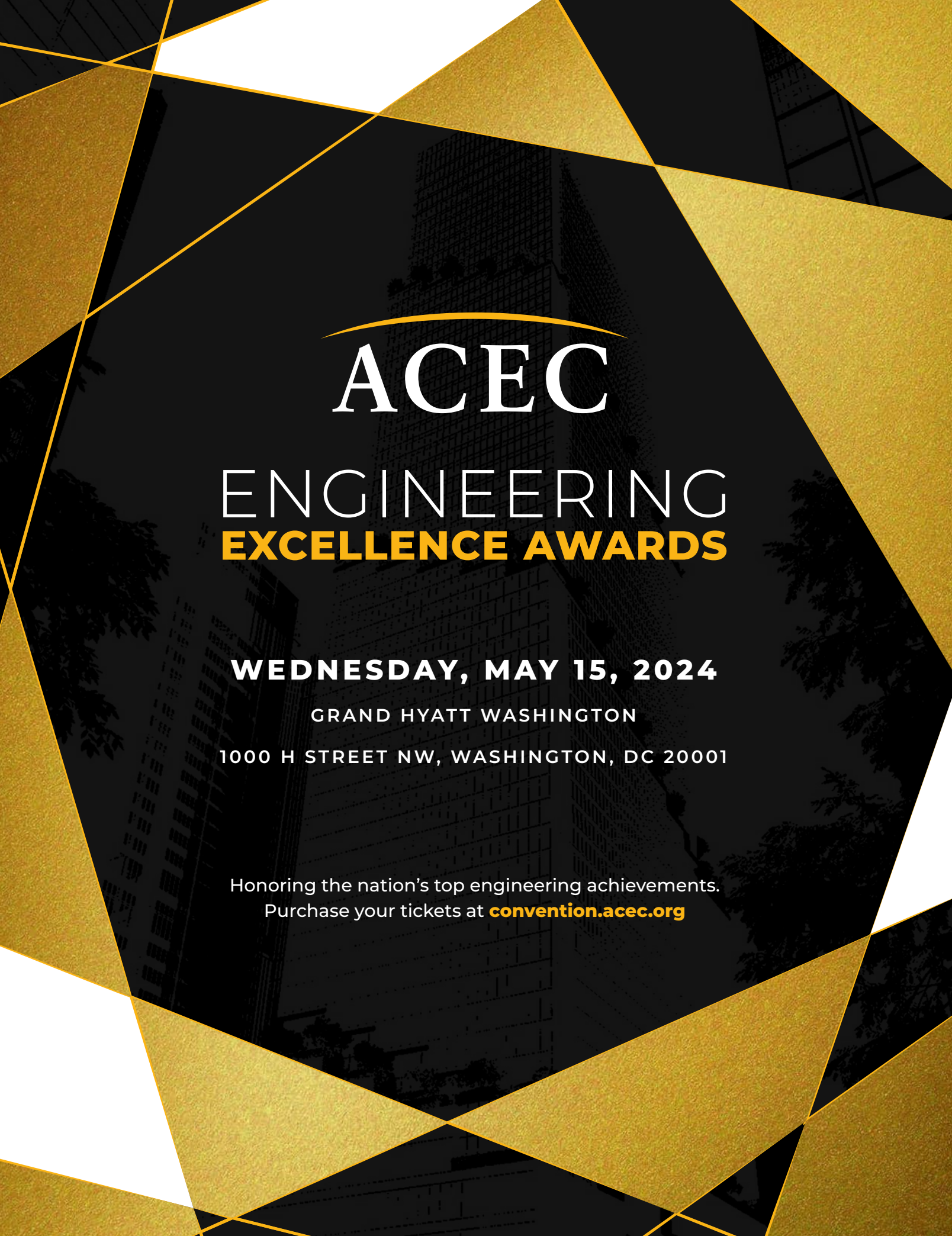
In an effort to boost contributions, ACEC/PA recently had an axe-throwing event to increase engagement. "It was a great get-together," Bougher says. "We are encouraging PAC events throughout the state and hope to establish them as yearly events moving forward. We also talk about our state and federal PACs to our member firms on a regular basis and encourage contributions."

The future of engineering is at stake, and ACEC/PAC is committed to advancing the priorities of firms nationwide. ■

***Bob Violino** is a business and technology writer based in Massapequa Park, New York.*

"Our involvement in the PAC starts with the board. Our goal is to set the example and then reach out to our member firms."

ROSELINE BOUGHER
PRESIDENT AND CEO
A.D. MARBLE & CO.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PUTTING FOR A PURPOSE

Peters and Yaffee's yearly creative golf event drives support for local charities

BY MICHELE MEYER

When Peters and Yaffee (PY) takes a swing at fundraising, it's all about driving home an ace. The 29-person engineering firm, headquartered in Jacksonville, Florida, with a branch office in Denver, focuses on traffic and transportation engineering design, and holds an annual Build Putt Give food and scholarship drive.

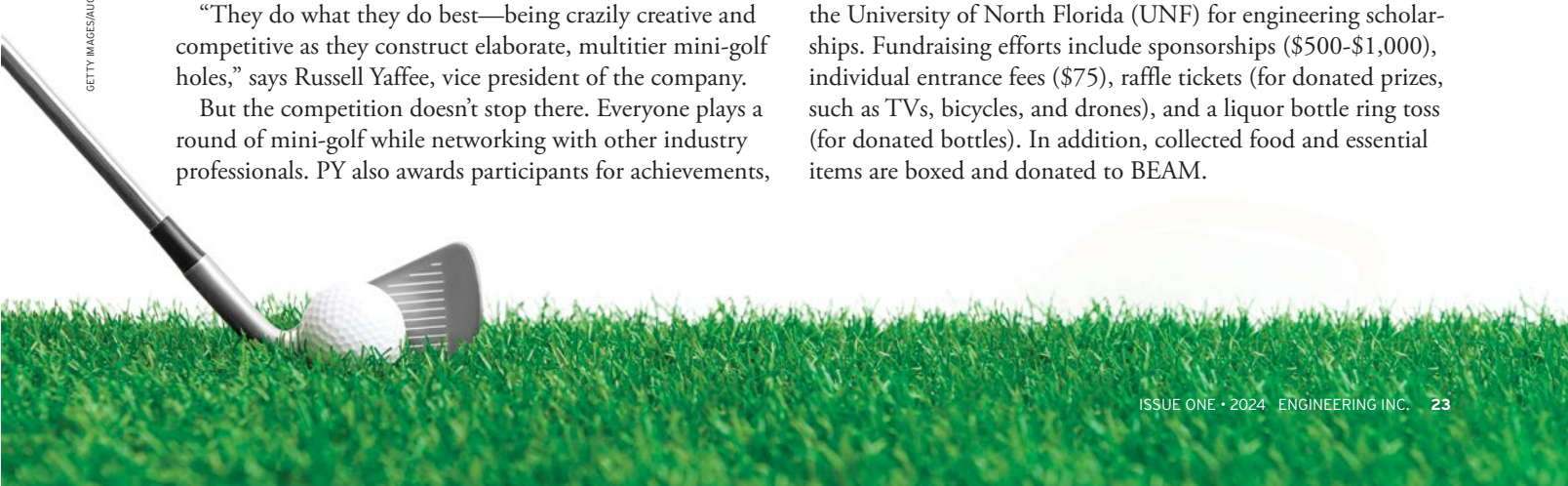
During the event, participants—mostly from the local A/E/C industry—build miniature golf holes out of non-perishable food items, using cans, boxes, and other props. Their creations feature tunnels, ramps, loop-de-loops, and even working windmills.

"They do what they do best—being crazily creative and competitive as they construct elaborate, multitier mini-golf holes," says Russell Yaffee, vice president of the company.

But the competition doesn't stop there. Everyone plays a round of mini-golf while networking with other industry professionals. PY also awards participants for achievements, such as Most Food Donated, Most Creative, Most Industry-Related, A for Effort (for newcomers), and, for 2023's Halloween theme, Spookiest Hole Design.

The biggest award—literally—goes to the company that builds the best hole. It's called the Russell T. Yaffee Award for Outstanding Achievement in the Field of Excellence—a silly name for a 5-foot trophy that Yaffee asked the designer to make "the tackiest, ugliest possible. But firms fight to get it." (PY judges the awards, but it can't win them.)

Then comes the "Give" part of Build Putt Give: Funds raised during the event are divided between the Beaches Emergency Assistance Ministry (BEAM) food pantry in Jacksonville and the University of North Florida (UNF) for engineering scholarships. Fundraising efforts include sponsorships ($500-$1,000), individual entrance fees ($75), raffle tickets (for donated prizes, such as TVs, bicycles, and drones), and a liquor bottle ring toss (for donated bottles). In addition, collected food and essential items are boxed and donated to BEAM.



GETTY IMAGES/AUGUSTAS CETKAUSKAS

10 YEARS OF GIVING

Peters and Yaffee has gone above and beyond over the last decade.

67,682 pounds of food (equal to 68,830 meals) donated to families in need.

$11,750 donated to the University of North Florida for engineering department scholarships.

$25,653 donated to food pantries.

$1,000 donated to the Kate Amato Foundation for childhood cancer research.

"No contribution is too small. It doesn't take much to change someone's life."

RUSSELL YAFFEE
VICE PRESIDENT
PETERS AND YAFFEE

"No contribution is too small," Yaffee says. "It doesn't take much to change someone's life."

In the past decade, Build Putt Give has donated 67,682 pounds of food to families in need, $25,653 to food pantries, and $11,750 to UNF for engineering scholarships.

Yaffee says the food is "very much appreciated by our community's families who need assistance making ends meet."

EARLY YEARS AND CHALLENGES

When the fundraiser began in 2014, donations went to a regional food bank, Feeding Northeast Florida. "When they came to pick up the food, they brought only one medium-sized box truck and had to get a second one," recalls Whitney Anderson, a traffic engineer in PY's Denver office. "It was so moving to see their utter shock and joy to get that much from one company in one go."

Unfortunately, the firm lost money on the inaugural event, not raising enough to cover the costs of signs, food, golf balls, putters, trophies, and a photographer. So adjustments were made and, by 2018, Build Putt Give became a 501(c)(3) nonprofit—a separate entity run by the PY staff.

"That gave us the ability to make purchases tax-free and make others more comfortable to donate," says Yaffee. The firm also chose to stay closer to home, designating BEAM as its food bank.

In 2020 and 2021, the pandemic forced Build Putt Give to pivot to an online fundraiser. Even so, after setting a yearly goal of $10,000, the online events raised $7,153 in 2020 and $10,006 in 2021 via the fundraising platform Fundly.

"I spent a lot of time hunting down people to give, and I cashed in all my chips with friends, relatives, and the engineering community," Yaffee says.

A SPOOKTACULAR SUCCESS

Held at UNF, the 10th annual event in October 2023 cost PY an estimated $1,000 for its sponsorship, $800 for food, $700 for building materials, and wages to cover employees' time (90 percent of employees participate).

The results of the Halloween-themed event were a hole-in-one: 8,975 pounds of food and $3,000 each for BEAM and UNF—the most successful fundraising effort yet.

Attendance also shot up, from 130 to 200 participants. "At one point, we ran out of putters," Yaffee says. Nineteen firms participated, up from 12 the first year. They're alerted in advance of the event about the food bank's needs.

"BEAM has been great in sharing details about where our donations are going," says Jay Snyder, transportation engineer and leader at PY's Denver branch. "Credit also goes to the engineering community of Jacksonville for being so engaged and inventive. The event is tremendous fun."

HDR's team wore black turtlenecks and slacks with witches' hats. Anderson was master of ceremonies and wore a Jack Skellington (from *The Nightmare Before Christmas*) costume, while Snyder dressed up as *Saturday Night Live*'s David S. Pumpkins.

Halloween is big for Yaffee, the son and grandson of engineers, who used to keep a storage unit full of spooky props. His father's Halloween decorations once drew TV news crews—as did his own a generation later.

Yaffee is already plotting how to outdo the huge faux electric chair and jail cell he built in 2023 (and the haunted house and cemeteries of other teams). "I might add a coffin, another level, and strobe lights that go off when your ball gets into the hole," he says.

"It was so moving to see their utter shock and joy to get that much from one company in one go."

WHITNEY ANDERSON
TRAFFIC ENGINEER
PETERS AND YAFFEE

"Credit also goes to the engineering community of Jacksonville for being so engaged and inventive. The event is tremendous fun."

JAY SNYDER
TRANSPORTATION ENGINEER/DENVER OFFICE LEADER
PETERS AND YAFFEE

BRANCHING OUT

PY was launched by Yaffee and company President Dow Peters 15 years ago. They only had one intern, Anderson, and three employees, including themselves. But they identified a niche in the industry: traffic safety studies and signal and pavement marking design. That expertise has brought them big projects, including signage, pavement, and signal work across the state of Florida and now in Colorado via their Denver office.

As much as the work itself, they sought a company culture that valued each employee. They're also a minority-owned business and focus on diversity, with a staff of 40 percent women.

Build Putt Give isn't their sole largesse, but it's their main effort. Seven employees serve on the Build Putt Give board, and 15 to 20 people volunteer for the annual event.

"Everyone helps who is able to. If they don't have a work or family obligation, they're there," says Snyder, who joined PY in 2016 and helped open the Denver office in 2019.

"We hire good people, and good people generally care," says Yaffee, who's so passionate about Build Putt Give that he mentions the event during job interviews. "I tell candidates we work hard, we play hard, and we give back. Those are the kind of people we hire." ■

***Michele Meyer** is a management and marketing writer based in Houston. She has written for* Forbes, Entrepreneur, *and the International Association of Business Communicators.*

Peters and Yaffee staff volunteers dedicate their time and energy to the annual fundraising event.

6 TIPS TO RAISE MONEY WHILE HAVING A BALL

1 NARROW THE FOCUS. If you're a small firm, consider honing in on one event to enable and encourage your staff to participate.

2 DEBRIEF SOON AFTER. Review what went well and what didn't while it's fresh in your mind. That also gives you time to improve.

3 FOCUS ON COMMUNITY. PY chose BEAM as its food pantry because it's near the PY office—and the firm can see the neighborhoods that are helped. Mini-golf is a natural go-to in Florida, the state with the most golf courses per capita.

4 BRANCH OUT. If you create an independent foundation or nonprofit, you're likely to get more donations—and you can take advantage of the tax-free status.

5 AVOID TIEBREAKERS. Choose an odd number of members for your Corporate Social Responsibility committee or nonprofit board of directors. That way, if major decisions need to be made, there's no impasse.

6 DO THE MATH. Build Putt Give tickets weren't priced high enough to raise money for scholarships the first few years, says Russell Yaffee, vice president. "We had to raise ticket and sponsorship prices."

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SHUTTERSTOCK/SIBERIAN ART

ACEC Coalitions continue to address issues affecting specific industry disciplines while exploring emerging avenues for business growth

FOC on New Workplace Challenges

using and Marketplace Opportunities

BY BOB VIOLINO

Leaders of ACEC's seven coalitions are busy addressing the year's most pressing industry issues, while at the same time determining how to take advantage of emerging marketplace trends and opportunities.

The coalitions are practice-specific mini-organizations designed to advocate, communicate, and grow in a collaborative environment. They are a foundation of ACEC and represent each of the association's major market sectors. The experience and insights they provide help ACEC better advocate for member firm interests in Washington, D.C.

The seven coalitions are the Coalition of American Mechanical and Electrical Engineers (CAMEE), the Coalition of American Structural Engineers (CASE), the Coalition of Professional Surveyors (COPS), the Design Professionals Coalition (DPC), the Geoprofessional Coalition (GEO), the Land Development Coalition (LDC), and the Small Firm Coalition (SFC).

Industry Issues and Challenges

COALITION OF AMERICAN MECHANICAL AND ELECTRICAL ENGINEERS

For CAMEE, a coalition dedicated to developing the mechanical, electrical, and plumbing (MEP) services market, "our main focus is on the vertical building industry, which is seeing a significant amount of growth at this time," says **Adam Rickey, CAMEE chair** and vice president and facilities service line leader at KCI.

"A lot of that growth is due to the increase in infrastructure development investments, retrofits, and upgrades to MEP systems in older buildings," Rickey says. "There are also more commercial construction activities, and rapid urbanization is becoming more popular. That being said, CAMEE is really focusing in on three key areas to best serve our CAMEE membership and the greater ACEC community: education, advocacy, and our DEI efforts."

This year's CAMEE education endeavors will focus on how firms are managing the workflow from the Infrastructure Investment and Jobs Act (IIJA), Rickey says. "The Coalition will work to teach others how to plan for long-term solutions while addressing trends such as managing decarbonization and reducing carbon emission from a best business practice perspective," he says.

The group's advocacy efforts will also be focused on some of those same topics, such as energy efficiency, carbon emission reduction, design-build, Qualifications-Based Selection for MEP firms, and the Brooks Act in federal funding of green initiatives.

"Our coalition helps us become a better business through relationships with other members. With that opportunity, I think it's a great time to be an engineer."

ADAM RICKEY
CHAIR, CAMEE
VICE PRESIDENT AND FACILITIES SERVICE LINE LEADER
KCI

"One of the most discussed topics recently has been the effect of artificial intelligence on engineering firms, and how firms have been looking at the viability of AI on their design practice. Employee recruitment and retention have been popular topics, and changes in the R&D tax credit have been a hotly debated issue."

BRUCE BURT
CHAIR, CASE
PRINCIPAL AND VICE PRESIDENT OF ENGINEERING
RUBY + ASSOCIATES

COALITION OF AMERICAN STRUCTURAL ENGINEERS

CASE addresses business practice issues that concern structural engineers. "The four standing committees within CASE are Guidelines, Toolkits, Contracts, and Programs," says **Bruce Burt, CASE chair** and principal and vice president of engineering at Ruby + Associates. "In the past year, each of these committees has produced valuable information for its member organization—information that is also available to non-CASE members."

The Programs Committee has hosted presentations at CASE's winter and summer meetings, Structural Engineering Institute Structures Congress, the National Council of Structural Engineers Associations Summit, the American Institute of Steel Construction (AISC)-hosted Steel Conference, and ACEC's Annual Convention, Burt says. Topics have included structural engineering, trends in decarbonization, and digital twin technology, among others.

This year, the Guidelines Committee released a commentary on the recently updated AISC Code of Standard Practice. The Toolkits Committee published a tool for developing engineering fees, and it's working on another for validating design software. The Contracts Committee is focusing on design-build topics and will soon release a commentary on teaming agreements.

"These are just a few of the many resources CASE has developed in the past year," Burt says.

"We are facing increased competition from municipalities and agencies when it comes to recruitment and retention. Most firms cannot compete with the higher salaries and pension benefits these entities offer."

RICHARD SULLIVAN
CHAIR, COPS
VICE PRESIDENT, PSOMAS

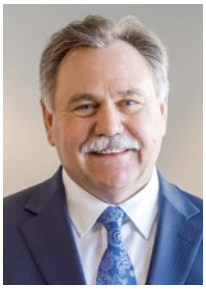
COALITION OF PROFESSIONAL SURVEYORS

Due to a severe shortage of survey professionals and technicians, COPS is most focused on education and networking opportunities within the survey profession, says **Richard Sullivan, COPS chair** and vice president at Psomas.

"We are facing increased competition from municipalities and agencies when it comes to recruitment and retention," Sullivan says. "Most firms cannot compete with the higher salaries and pension benefits these entities offer."

COPS is joining forces with other organizations such as the National Society of Professional Surveyors (NSPS) on education and network opportunities.

"NSPS has a Certified Survey Technician Program that can be used to develop surveyors," Sullivan says. "This also provides a clear path to advancement and will hopefully result in licensure. We are also providing seminars on developing technologies such as reality-capture tools."



"We want to maximize opportunities for our members to participate in advocacy efforts to advance the regulatory and legislative interests of DPC member firms."

ERIC KEEN
CHAIR, DPC
CHAIRMAN AND CEO, HDR

DESIGN PROFESSIONALS COALITION

Priorities for DPC this year are to help network, educate, advocate, and create positive impacts for member firms and the industry at large, says **Eric Keen, DPC chair** and chairman and CEO of HDR.

"Our strategies align to these priorities and establish our organizational focus," Keen says. "We meet in person twice a year and hold various smaller meetings to advance our strategies. We cap our membership at 60 firms to aid in helping to manage the number of participants and to support a more collegial meeting environment."

DPC encourages active participation by members. An executive committee made up of the member firms seeks input from members to conform with the group's strategic plan and identify important topics facing the industry. These topics are presented during coalition meetings that are facilitated by one or several members, and oftentimes invited speakers.

GEOPROFESSIONAL COALITION

GEO focuses on business issues that affect geotechnical and environmental engineering as well as construction materials engineering and testing.

"We are greatly impacted by the changing workforce, workplace challenges, and emerging technology," says **Andrew Pennoni, GEO chair** and regional vice president of Pennoni Associates. "We hold roundtables and network with other geoprofessional leaders from around the country to discuss these issues that directly affect our firms."

The recent increase in federal funding due to the IIJA "has helped move many overdue projects that address our infrastructure needs and improve our country's economic competitiveness while providing opportunities for our member firms," Pennoni says.

"We are greatly impacted by the changing workforce, workplace challenges, and emerging technology. We hold roundtables and network with other geoprofessional leaders from around the country to discuss these issues that directly affect our firms."

ANDREW PENNONI
CHAIR, GEO
REGIONAL VICE PRESIDENT, PENNONI ASSOCIATES

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"Whether solar, battery energy storage, offshore wind, or the decarbonization movement, land development engineering is a critical part of the process that makes these projects feasible and permittable. LDC member firms are playing a significant role in the renewables market now and into the future."

DJ HODSON
CHAIR, LDC
MANAGING PRINCIPAL
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

LAND DEVELOPMENT COALITION

LDC is focused on the recent Supreme Court Sackett decision, which produced a shift in the interpretation of the definition of "waters of the United States."

"The federal and state regulatory reactions to this decision will have significant potential repercussions on land development," says **DJ Hodson, LDC chair** and managing principal at Langan Engineering & Environmental Services. "It's important that the LDC stay active as the EPA and Department of the Army issued the final rule on August 29, 2023, to amend the previous January 2023 rule" and was expected to address this issue in several webinars held in fall 2023. LDC is working with the ACEC Government Affairs Committee to provide technical support needed to deal with this issue.

The battle to attract and retain talent is an ongoing issue for the coalition. "LDC is releasing a new publication on this topic to help member firms strategize ways to attract and retain staff," Hodson says. "This publication will be added to the long list of existing LDC library of publications."

Monthly LDC Executive Committee open roundtable meetings enable member firms to discuss issues impacting work. "Having senior-level input from representative firms around the country makes for interesting and informative conversations," Hodson says.

SMALL FIRM COALITION

SFC isn't specific to any single area of interest within the industry. Instead, it's focused on all engineering disciplines, market sectors, and issues that small firms face. Many of these issues are similar to those faced by large or medium-sized firms, but the approach to resolving them can be very different.

One of the most successful programs within SFC is hosting small firm roundtable discussions at conferences, where anyone can ask for input on any issue they're having. "Our members are always willing to share their experiences addressing issues ranging from marketing and business development to HR, accounting, and IT," says **Brandon Claborn, SFC chair** and CEO of Meshek & Associates.

Some of the coalition's biggest challenges currently include legislative relief from the Section 174 amortization requirement which causes significant cash flow issues for many small firms; succession planning for future leaders and future owners of firms; and recruiting and retaining staff to develop the workforce needed to be competitive in today's market.

"Our firms are excited about the potential to use new technologies to help us deliver the projects that are desperately needed while experiencing a shortage of workers."

BRANDON CLABORN
CHAIR, SFC
CEO, MESHEK & ASSOCIATES

SHUTTERSTOCK/SIBERIAN ART

Market Opportunities

At the CASE winter and summer meetings, a roundtable discussion is always included, Burt says. "One of the most discussed topics recently has been the effect of artificial intelligence on engineering firms, and how firms have been looking at the viability of AI on their design practice," he says. "Employee recruitment and retention have been popular topics, and changes in the R&D tax credit have been a hotly debated issue."

Tech is also top of mind for SFC: "Our firms are excited about the potential to use new technologies to help us deliver the projects that are desperately needed while experiencing a shortage of workers," Claborn says. "Small firms are typically able to enact change and respond quicker than some large firms. These issues combined with expected increases in infrastructure and economic development are great reasons to be excited when looking to the future."

Among the trends COPS is looking at are risk management and safety, Sullivan says. "These topics are interrelated in that there are policies changing on a frequent basis," he says. "What may have been true one year ago may no longer be relevant. We are keeping a close eye on these legal trends in our industry so our members can make decisions with the best set of facts possible."

Safety incidents can be one of the costliest aspects of business for surveyor firms, Sullivan says. Experience modification ratings (EMRs) are often used to qualify firms. "If the EMR is too high, a firm may be precluded from performing work on a project," he explains.

The GEO Coalition will continue to advocate for issues that are important to member firms, such as risk management, workforce safety and wellness, workforce development, and government requirements.

"Collaborating with the other ACEC coalitions has allowed us to benefit from their work and provided the GEO Coalition an opportunity to represent our member firms on issues that directly affect our firms, such as the solicitation and contracting of geoprofessional services by other engineering firms," Pennoni says.

"DPC will emphasize collaboration among its members through effective programming, opportunities to participate, and opportunities to network," Keen says. To that end, the coalition will host formalized networking activities at its meetings to provide a welcoming atmosphere for new members and provide opportunities for greater C-suite interaction.

The coalition's goals also include a focus on educational efforts on the future of the industry and firms, diversity and inclusion, case studies and lessons learned, and developing legislative remedies for ACEC advocacy programs.

"We want to maximize opportunities for our members to participate in advocacy efforts to advance the regulatory and legislative interests of DPC member firms," Keen says. This includes expanding the use of member firm expertise to provide practical solutions for legislation and working closely with ACEC advocacy programs' research and data analytics to support industry positions.

LDC is still tracking and discussing the infrastructure enhancements via the IIJA and is seeing a significant uptick in renewable energy projects. "Whether solar, battery energy storage, offshore wind, or the decarbonization movement, land development engineering is a critical part of the process that makes these projects feasible and permittable," Hodson says. "LDC member firms are playing a significant role in the renewables market now and into the future."

CAMEE is putting a work plan in place with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Rickey says. "Both organizations are working together to identify areas where we feel we can advance and promote the mutual interests of our respective members," he says. "This implementation will lead to greater opportunity for collaboration in education and publication, policy and advocacy, and other areas that members might find commonality."

The group's most important efforts "are in the steps we take to engage our members," Rickey says. "We are designing a program for our CAMEE participants, as well as the ACEC community, that accurately reflects what we have taken away from our in-person roundtables this year. If any ACEC members have not yet had a chance to attend these practice area-specific roundtables, I would encourage them to do so. It is a great opportunity to really connect with your peers and learn about the industry."

CAMEE has heard from its members about what's important to them and aims to continue creating content and meaningful business practice tools to help firms grow in whichever way they define growth. For KCI specifically, "CAMEE has provided an invaluable experience and partnership," Rickey says. "We not only have benefited from a business aspect, but we have also been able to strengthen our industry relationships."

Rickey adds that he is excited about the direction the industry is headed. "There is a lot of change happening, and things are moving fast. Technology and innovation are revolutionizing the way we all complete our work, and CAMEE gives us a platform, structure, and the resources needed to employ excellence in the industry. Our coalition helps us become a better business through relationships with other members. With that opportunity, I think it's a great time to be an engineer." ■

Bob Violino *is a business and technology writer based in Massapequa Park, New York.*

The Power of

Stakeholder education, strategic statehouse engagement, and leadership development

In early 2023, ACEC Wisconsin was going full throttle on getting "duty to defend" legislation passed at the statehouse. "It's by far our biggest issue, and it was the first bill in quite a long time that we had drafted, introduced, and pushed through the whole process," says Chris Klein, president and CEO of ACEC Wisconsin. Klein began his current role in 2016 with a background in government affairs in both the public and private sectors that included a stint as the assistant deputy secretary of the Wisconsin Department of Transportation (WisDOT).

Because February is the beginning of the state budget process, which occurs every two years, the Member Organization holds a lobbying day that month. "We had our largest-ever attendance scheduled," Klein says. "More than 100 members were signed up and ready to hit the Capitol on this issue." The group had worked for nearly seven months with "every organization out there that we felt could possibly support or oppose our legislation. And we spent a good amount of time getting everyone to stand down and not fight it," he adds.

HELPING TO UNDERSTAND THE ISSUES

This sense of a closely knit group characterizes the Member Organization. "The grassroots side of our organization, overall strong membership participation, and the way we collaborate together is pretty unique," says Chair Josh Straka, project manager at Strand Associates.

ACEC Wisconsin connected with local professional organizations for architects, interior designers, landscape architects, and land surveyors. In addition, it received funding from ACEC's Minuteman Fund, which it used to create two 20-second videos: one defining duty to defend and the other explaining indemnification. "I think we are one of the first states to actually put these videos into use with both our members and the legislature in the way we did," Klein says. Part of the plan included sending out a fact sheet with QR codes linking to the videos.

"One of the biggest benefits of the videos was helping our members—many of whom may not work on contracts every day—understand these complicated issues and see why they're important for their profession," Klein explains. He recognizes the work and

GETTY IMAGES/SEAN PAVONE

Partnerships

help ACEC Wisconsin push legislation over the finish line

BY STACEY FREED

ACEC WISCONSIN AT A GLANCE

ACEC Wisconsin has 84 member firms throughout the state, with more than 5,000 Wisconsinites employed by those companies.

At the helm are President and CEO Chris Klein and Chair Josh Straka, with Past Chair Steve Wurster. The Member Organization's goals include:

- Creating a favorable environment for engineering firms;
- Providing access to knowledge;
- Delivering member value; and
- Maintaining a strong organization.

The group empowers and supports a diverse engineering community through advocacy, leadership development, and engagement.

energy it takes for members to contact a legislator, whether with a phone call, email, or personal visit. "But it's an even deeper task when you ask a member to do that for an issue whose importance they don't understand. Those videos did a great job."

With everyone champing at the bit, Mother Nature threw a curveball: a snowstorm bad enough for the legislature to cancel the session. But the Member Organization was able to pivot quickly by scheduling a virtual lobbying effort for March. The bill passed the Assembly.

GROWING LEADERS

A focus on education filters through the entire organization. Case in point: The popular Leadership Institute, which offers employees at member firms six day-and-a-half sessions over the course of six months. Programs focus on firm leadership, running a business, financial and risk management, marketing and business development, work-life balance, and government affairs.

"At our firm, we have a waiting list of staff we'd like to move through the Leadership Institute," says Past Chair Steve Wurster, senior vice president and COO at Ruekert & Mielke. "It's prestigious, and we have employees requesting to be considered for the program."

Even member firms from other states want their people to participate. Wurster attended 12 years ago and says the experience "was instrumental in my personal career as far as getting me thinking differently. It helped me shift from project- and technical-based thinking to asking questions such as 'How do I want to lead?' 'What does it take to keep the doors open and the lights on?' 'How do politics come into play?' 'How does writing a good contract come into play?'—all of those other things that they don't teach you in engineering school."

Madison's newest fire station offers vital assistance in an underserved community and doubles as a gathering space. The work was done by member firm IMEG.

That program has been a pipeline for leaders in the larger organization as well. "We're coming full circle, where we now have nominating committee members picking people to come on the board of directors who went through the Leadership Institute, and they also were the mentors of those programs," Klein says. They now have a more diverse board in terms of firm size, geographic location, gender, and disadvantaged business enterprises. "It's an amazing testament not just to the association and how we keep everyone involved, but also, it's a testament to the firms who participate and those they choose to participate in the Leadership Institute. They see something in them, and they end up being on our board of directors," Klein says.

ADVOCATING FOR THE LOCAL TALENT PIPELINE

"As an association, we are doing more events, getting higher attendance, creating more committees, and having more members join our committees than we ever have," Klein says. But he acknowledges that he, his staff, and dedicated volunteers must choose their battles strategically, to know when to go all out and when to act in a supporting role. Sometimes "our voice is best used to amplify the message of others and help connect the dots," he says.

As with many other parts of the nation, Wisconsin needs engineers. "I'm a little worried about it," Straka says. "Civil engineering programs are struggling to find students more than some of the other engineering majors in our state. At the same time, our industry has a large national infrastructure bill to deliver. Many firms are excited about the high backlog of work but are also concerned with finding staff to help complete it."

Understanding this need, ACEC Wisconsin waded a bit outside its purview in an effort to help the University of Wisconsin–Madison get a much-needed new engineering building. "We typically don't get involved in advocating for specific projects; we advocate for overall funding," Klein says.

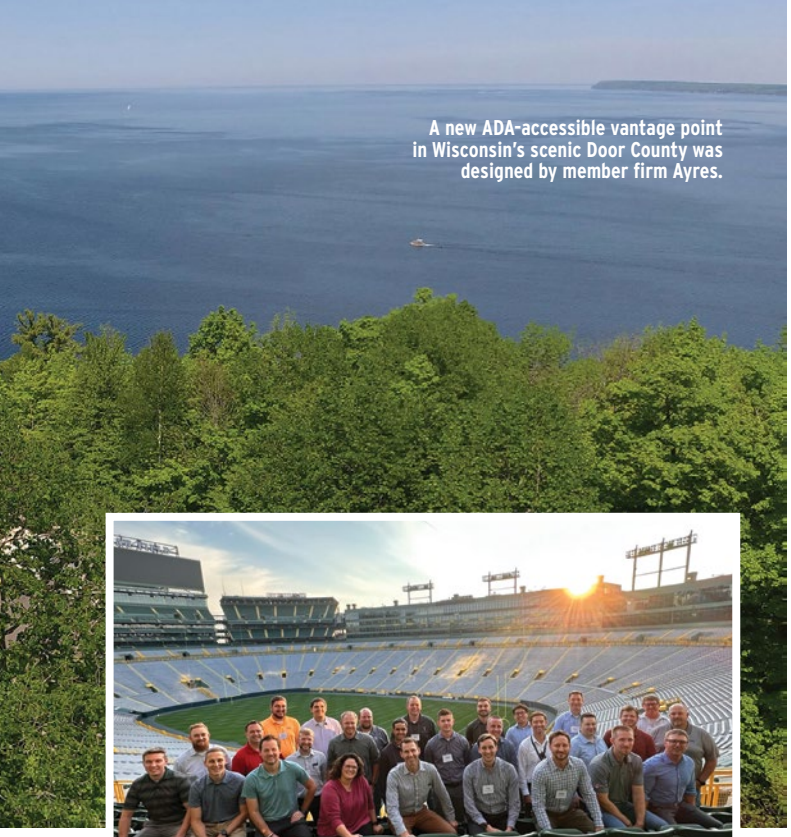
Currently, the College of Engineering can only accept fewer than 20 percent of applicants. With a new building, undergraduate enrollment would increase to 5,500 students and graduate enrollment to 2,000 students.

This "engineering building effort is different because of the workforce issues that our engineering firms are seeing," Klein says. "We felt it was totally appropriate for us to take a position to advocate for a specific project. If we can graduate 1,000 more engineers a year in Madison, we're all for it."

"We are doing more events, getting higher attendance, creating more committees, and having more members join our committees than we ever have."

CHRIS KLEIN
PRESIDENT AND CEO
ACEC WISCONSIN

ACEC Wisconsin member firm Forward 45 LLC designed the Zoo Interchange. Wisconsin's busiest interchange was entirely reconfigured to meet growing traffic needs and address safety concerns.



A new ADA-accessible vantage point in Wisconsin's scenic Door County was designed by member firm Ayres.

The Leadership Institute class of 2024 gathered for their first meeting at Lambeau Field.

The Member Organization signed coalition letters, met with the legislators early on, and advocated for a new building. However, the issue turned partisan when Republican legislators denied funding for the engineering school unless university-wide diversity, equity, and inclusion (DEI) programs were cut. ACEC Wisconsin bowed out at that point. "We'd done our part, convincing legislators on the value of the engineering building. We were not going to get in the middle of a battle between the legislature and university on DEI initiatives," Klein says.

GOING FORWARD

This year, ACEC Wisconsin is ramping up to find a solution to a major financial concern: Because of the increase in electric vehicle use, gas taxes might not be able to fully fund transportation projects.

The Member Organization also has several initiatives in conjunction with WisDOT. So, the governmental agency and ACEC Wisconsin held their first-ever partnership meeting. The all-day event addressed concerns that members and WisDOT staff had about delivering the program most efficiently. ACEC Wisconsin's transportation leadership committee "worked on issues ranging from the fixed fee all the way to scope of services, contracting, and negotiating. And we've already had some great outcomes from that meeting," Klein says. One victory: WisDOT increased the fixed fee by a percentage point.

The two organizations identified other issues to work on and plan to meet three times a year going forward. In addition, WisDOT has agreed to a partnership event every other year. "That's going to be a huge asset that ACEC can offer to its members," Klein says.

The indemnification legislation passed the Assembly in 2023 and the Senate unanimously in January 2024. ACEC Wisconsin applied for a Minuteman Fund grant to cover some of the legal work necessary to develop the complicated legislation, "which is different from state to state," Klein says.

Their legislative sponsors are two Republican and two Democratic senators. "You can't get any more bipartisan," Klein says. "And support carried over on the floor." Members put the advocacy alerts into action. "Our members did an amazing job reaching out to their Assembly reps and Senators."

The bill awaits the governor's signature. ■

Stacey Freed *is a writer based in Pittsford, New York, who has contributed to* This Old House, Professional Builder, *and* USA Today.

"Our industry has a large national infrastructure bill to deliver. Many firms are excited about the high backlog of work but are also concerned with finding staff to help complete it."

JOSH STRAKA
CHAIR
ACEC WISCONSIN

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STEVE WURSTER
PAST CHAIR
ACEC WISCONSIN

Adaptation Needed as PLI Costs Rise

The 2023 PLI Carrier Survey finds the severity of insurance claims against firms have increased—along with premiums

BY BOB VIOLINO

The severity of insurance claims against engineering firms is on the rise, and it's likely that many firms will see rate increases in the coming months. They will also experience greater scrutiny by professional liability insurance (PLI) carriers in determining coverage.

Those are some of the key findings of the 2023 survey of PLI carriers by ACEC, the American Institute of Architects Trust, and the National Society of Professional Engineers.

CLAIMS TRENDS

There has been an uptick in the severity of claims being made against large engineering firms that work on horizontal infrastructure projects, such as highways and bridges, says Jackie Neal, executive vice president at insurance provider Berkley Design Professional.

"Many of these claims involve parties that have been injured or killed in vehicle accidents," Neal says. "In today's legal environment, these matters are impacted by social inflation and other variables that have a dramatic impact on the damages alleged and the dollar amounts

SHUTTERSTOCK/PM IMAGES

required to negotiate a settlement. Further complicating matters is the trend of 'nuclear verdicts' being handed down by the courts."

According to Travelers, a nuclear verdict is a ruling in favor of the plaintiff with a damage award that exceeds $10 million. It can also describe an outcome that is exceptionally higher than expected. Nuclear verdicts can devastate a firm's bottom line and damage its reputation.

Claim severity is also impacting the availability of capacity and pricing within the design professional business, Neal says. "The availability of project insurance has also diminished, which pushes more exposure back to individual practice policies," she says. "Insurance providers will have to consider how to manage and price for this additional exposure."

Travelers has seen an uptick in mechanical engineering claims, says John Rapp, assistant vice president of the Professional Liability-Design Professionals group at Travelers.

"A lot of owners are looking to do sustainable projects, and that adds costs upfront to the mechanical systems," Rapp says. "Some of the potential issues with sustainable designs are they aren't as established. They can require more technical ability and expertise related to their operation and maintenance. If these sustainable design systems aren't operated and maintained properly, it can cause issues with system performance."

Victor, a managing general underwriter, is starting to see a return to more normal and expected loss trends post-pandemic, says Kevin Collins, managing director/A&E Practice Leader. "Severity continues to be a concern, as loss costs to remediate claims, availability of labor, and physical materials remain elevated and well above historical norms," he says. "The good news is that the claims are coming more consistently from client and contractor-generated claims that are within firms' ability to manage."

Firms with higher loss ratios, higher exposure to condominiums, and higher limits might face challenges in placing their coverage at consistent rates, Collins says.

For carrier AXA XL, residential and large infrastructure project-related claims have generally had higher severity than other project types, says Michaela Kendall, manager of strategic partnerships.

"Delay and material cost escalations have driven this trend for both project types, as has stretched capacity, due to many firms experiencing project backlogs and staffing shortages," Kendall says. "In addition, an increase in personal injury-based claims related to these types of projects, asserted by both project staff and members of the public at large, have driven increased severity."

A/E firms need to be aware of several factors that can increase risk, says Timothy Corbett, founder and president of SmartRisk LLC and a member of the ACEC Risk Management Committee. One is a lack of staffing, especially at the mid-level. "Firms continue to experience challenges in meeting staffing demands supporting project efforts," Corbett says.

Other factors include supply chain issues, consisting of delays, substitutions, and design modifications that often result in decreased quality, which can lead to claims and litigation.

RATE INCREASES

It's expected that many design firms will experience rate increases over the next 12 months due to increased claim severity and other economic factors.

"New and evolving areas of high risk are projects delivered via contractor-led design-build, the impact of catastrophe losses on building codes and standards, a decrease in the weight placed on the professional standard of care when evaluating liability, and the impact of artificial intelligence and other technology advancements on quality control," Neal says. "Engineering firms need to carefully evaluate the risk they are assuming and will be challenged to find insurance capacity to meet contractual demands."

In interviews with carriers, conducted as part of the 2023 survey, insurers stressed that it's important for A/E/C firms to include flow-through provisions in subcontracts, says Brian

"Engineering firms need to carefully evaluate the risk they are assuming and will be challenged to find insurance capacity to meet contractual demands."

JACKIE NEAL
EXECUTIVE VICE PRESIDENT
BERKLEY DESIGN PROFESSIONAL

"Choosing an insurance carrier based primarily on premium, or on premium alone, runs the risk that the firm will not receive more sophisticated claims assistance and risk management resources offered by other carriers."

ROGER GUILIAN
SENIOR VICE PRESIDENT AND CLIENT EXECUTIVE
GREYLING

Welker, senior vice president and chief operating officer at Crawford, Murphy & Tilly, and a member of the ACEC Risk Management Committee.

"A number of claims have occurred where there was inconsistency between prime agreement and subcontracts," Welker says. He adds that a majority of the carriers interviewed emphasized the need for and importance of continued education with regard to contracts.

Design-build continues to be an area of increased exposure and claim frequency. "Many of the carriers, while concerned with design-build claims from contractors, seemed more optimistic about the potential of owners using a progressive design-build model that promotes additional certainty for the development of a fixed price by the contractor," says Jim Messmore, senior vice president and infrastructure market principal at Hanson Professional Services and past chair of the ACEC Risk Management Committee.

There are also concerns with mentoring younger engineers and knowledge transfer, related to less in-person interaction because of remote working arrangements or retirement of experienced engineers, Messmore says.

GREATER SCRUTINY

In this competitive insurance market, certain carriers are applying greater scrutiny in both determining and denying coverage to firms.

"We have seen carriers begin to take a keener approach to coverage analysis, especially with respect to large alternative delivery projects" such as design-build, says Roger Guilian, senior vice president and client executive at Greyling Insurance Brokerage & Risk Consulting, a division of EPIC. Greyling is the program administrator for the ACEC Business Insurance Trust.

When insurers' programs are more profitable, "they can be more lenient in their coverage analyses and provide coverage even in the gray areas," says Stephen Agnew, principal at Insurance Management Consultants Inc. and association president at a/e ProNet, a network of independent insurance brokers specializing in the professional liability insurance and risk management needs of design professionals.

"As their profitability erodes, insurers respond in a variety of ways," Agnew says. "Some tighten up their underwriting requirements, some restrict their limit deployment, and others scrutinize their policy forms more closely and issue more coverage denials and reservations of their rights. Sometimes we see a combination of all those approaches from one insurer."

The greater scrutiny does not just involve firms that might have difficult claims, but those that are being pressured by clients to increase their base practice policy limits, says Nick Maletta, client executive/shareholder at brokerage Holmes, Murphy and Associates and president of the Professional Liability Agents Network.

"The increased demand on firms for higher limits, coupled with the pressure carriers are feeling in the reinsurance marketplace, has really increased the pressure on primary insurance carriers," Maletta says. "This has driven carriers to be more selective in those firms that are able to increase their policy limits to match that of client requests, even if done on a per client or project basis."

Newer entrants to the A/E/C insurance market often choose a "sweet spot" and underwrite aggressively within it, so their rates are typically lower if the risk fits within their appetite, Agnew says. "Legacy carriers often have a broader underwriting appetite because they can support it with more premium on the books, but they may exhibit less flexibility on rates, particularly on renewals of firms with claims," he says.

Greyling has seen indications that newer market entrants are more willing to aggressively price opportunities, seemingly in an attempt to build a book of business, Guilian says.

SHUTTERSTOCK/PM IMAGES

BEYOND PREMIUMS

While premiums are an important factor in selecting an insurer, they should not be the primary reason, according to brokers.

"There's an old adage that 'You get what you pay for,'" Guilian says. "Choosing an insurance carrier based primarily on premium, or on premium alone, runs the risk that the firm will not receive more sophisticated claims assistance and risk management resources offered by other carriers. The propensity to have claims and coverage denied may be higher as well."

Maletta says he always recommends looking for a carrier

partner who isn't just a transactional partner, but who does much more for a firm to provide value far beyond the transaction.

"While the transactional piece is the necessary evil in our world, the competition in the A/E/C marketplace really drives the need for carriers to become innovative and to drive additional value for insureds," Maletta says. "We strongly believe carriers who have a vested interest in the A/E/C community and a long-term presence are those who should be given more consideration in the placement process."

Strong claims advocacy and focused resources such as educational content, contract review assistance, and a presence at industry-specific events are proof of the true dedication a carrier has to the marketplace, Maletta says.

"Pure price shopping is not an effective way to procure professional services because quality and experience often come with a slightly higher price tag to support that," Agnew says.

TIME FOR A CHANGE?

There are multiple reasons why brokers would advise firms to change insurance carriers.

"The number one reason that causes our team to recommend a change in insurance carriers is inadequate claim handling," Agnew says. "A claim handled well allows an insured firm to continue its other operations with limited disruption and preserve relationships with key stakeholders in the claim where possible—all while proceeding through the claim process to a successful resolution as expeditiously as possible."

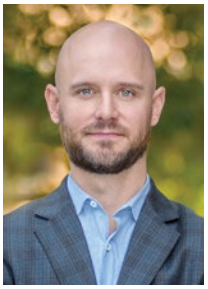
He adds that a carrier who is unable to provide this level of service should be reevaluated at renewal, or even sooner if necessary.

Another common reason for changing insurance carriers is a change in underwriting appetite, when the incumbent carrier no longer has a desire to underwrite the operations of the firm in a competitive manner, Agnew says.

Yet another reason is that the carrier no longer offers terms that meet the firm's contractual requirements. "Examples might include an unwillingness to offer the limits required by contract, the inability of the carrier to meet specified financial strength ratings, or a reluctance to offer specific coverages related to exposures like pollution, asbestos, or intellectual property," Agnew says.

"Firms must focus on building a risk management-driven culture to truly impact the risk profile of the firm."

NICK MALETTA
CLIENT EXECUTIVE
HOLMES, MURPHY AND ASSOCIATES
PRESIDENT
PROFESSIONAL LIABILITY AGENTS NETWORK



"The number one reason that causes our team to recommend a change in insurance carriers is inadequate claim handling."

STEPHEN AGNEW
ASSOCIATION PRESIDENT
A/E PRONET
PRINCIPAL, INSURANCE MANAGEMENT CONSULTANTS INC.

BEST PRACTICES

Firms should leverage educational materials provided by insurers. For example, Berkley Design Professional offers education and risk management resources that provide policyholders with access to a range of e-learning continuing education courses and hundreds of articles, guides, templates, and checklists to help reduce exposure to risk.

Firms should report all claims in a timely manner, Agnew says. "Read your policy's definition of 'claim,' and review it with your staff," he says. "Send out intermittent reminders to staff that all claims must be reported to the insurer or else the firm risks a denial of coverage."

It's also a good idea to discuss any merger or acquisition activity with a broker early in the process. "There are multiple options for handling the transition on the insurance side, and your broker can help you evaluate those options to choose the one that's best for your firm," Agnew says.

Firms should consider buying "split limits," where the annual aggregate limit is higher than the per claim limit on your policy, Agnew says. "That way, one claim doesn't exhaust your entire policy, and you still have limits available to cover a second claim in the same policy year."

Perhaps most important, firms need to understand that the largest nontechnical risk driver for professional liability claims is ineffective communication, Agnew says. "Consider the appropriate means—email, phone call, face-to-face meeting—to communicate each time, and give some thought to what may be discoverable in the event of a claim," he says.

"Involving too many parties in the communication and overcomplicating the decision-making process or, conversely, leaving out a key party in the process could cause the difference between a small problem and a policy limits claim," Agnew says. "Good brokers and strong insurance carriers can help with training in this area, including real-life examples of claims."

Better risk management can keep claims down. "Firms must focus on building a risk management-driven culture to truly impact the risk profile of the firm," Maletta says. "This can be done many ways, but focusing on a culture of openness in internal communication and education likely leads to the best results." ■

***Bob Violino** is a business and technology writer based in Massapequa Park, New York.*

THE DELICATE ART OF PRESERVATION ENGINEERING

Engineering firm Silman completed preservation work on the Park Avenue Armory in New York City.

Renovating historic structures requires pioneering approaches and knowledge of past practices to provide today's solutions

BY STEVE HENDERSHOT

In 2009, two Texans surveyed the same historic site in Houston's Fourth Ward and made very different observations. One, a Houston city official, saw the remnants of a church founded by freed slaves in the 1890s and a priceless cultural landmark. Another—a structural engineer—also appreciated the building's significance while noting another issue: the church's north wall, 55 feet tall and cracked, posed an imminent safety threat to passersby.

"I immediately called the city and said, 'We can't do anything until we make it safe," recalls the engineer, Jacob Bice, senior principal at Walter P Moore.

Those contrasting impressions underscore the challenges that engineers often face on historic preservation projects. The goals on such projects can include preserving as much of a historic structure as possible—especially the facade and other significant aesthetics—while also modernizing the building and enhancing its structural integrity. That often means massive design changes to the building's core.

However, that sort of painstaking preservation isn't right for every old building, or even every historic building. Cost is a factor, as are the wishes of building owners and other stakeholders.

As Bice and other local stakeholders surveyed the Houston site, they worked through a calculus familiar to historic preservation projects.

"You have to decide: Is this the piece of the map that matters most to your community? Is this the one that you want to last in perpetuity?" says Bice. "It's always faster, cheaper, and easier to go back in and construct new structures. But with buildings that inform the cornerstones of a community, we have a responsibility to be good stewards. There's an investment, but you're investing with the understanding that these buildings are the places that really define where we are."

The Houston project, which was completed in 2013, resulted first in the stabilization of the damaged wall that Bice had identified, and later in the creation of Bethel Church Park—an award-winning project that preserved several external walls from the original historic building and integrated them into an open-air park with a steel frame whose shape echoes the vault of the original church's roof.

The park looks substantially different from the original church, but the team took care to preserve key historic components where possible. For example, when demolition teams encountered an "X" etched into a concrete frame, they called in archaeologists, who confirmed that the X was a hallmark of buildings constructed by freed slaves. The team then adjusted its plans so that it could preserve the X and the surrounding frame.

"Those beams are not in the greatest shape, but they're there purely because it's some of the last symbology from the original congregation that's still visible," Bice says.

PRESERVATION PREDICAMENTS

The initial analysis of whether or how to proceed with renovations isn't always easy—and that's just the beginning of the challenges posed by preservation projects. For starters, for many older buildings, the original plans, details, and analyses are not available, as they would be for more recent construction projects. "It is critically important to understand the beast before you can properly intervene," says Gary Mancini, managing principal and renewal practice leader at Thornton Tomasetti in New York City.

A smart first step in the effort to gain that insight is to focus on discerning "what was in the mind of the people who designed and built it, and how they intended for the structure to work," Mancini says. In other words, engineers need to determine how archaic or empirical approaches to engineering informed the original design and construction decisions.

For example, when Thornton Tomasetti engineers worked to stabilize and modernize Wrigley Field, an iconic, century-old Chicago baseball stadium, the firm recognized that "Back then, structural engineering was in its infancy, and people were still perfecting their approaches to managing vertical and lateral loads," says Steve Hofmeister, managing principal and structural engineering practice co-leader at Thornton Tomasetti and a leader of the Wrigley Field project completed in 2019.

As a result, Wrigley Field's original partition walls tightly abutted the stadium's columns, resisting most of the lateral loads on the ballpark. The program requirements of the restoration project mandated that the team shift the location of the partition walls so that they weren't connected as directly with the columns. Therefore, the team included a lateral system to resist modern code-required lateral forces.

The design of the original structure didn't age well either, having taken on lots of structural damage when water built up between the concrete and steel elements. When Hofmeister's team began the restoration project, some of the columns had decayed so much that they were essentially useless, underscoring the need for new, modern supports.

Which leads to Mancini's second point: Just as it's crucial to understand how the building was supposed to function, it's equally important to understand how it's actually functioning. "Sometimes the load paths that a building experiences have been altered over the years because of weathering and deterioration of the building's systems and components," he says.

Mancini once worked on a hotel restoration project in Midtown Manhattan, where several of the steel spandrel beams were found to have decayed dramatically—"to a point where portions of the beams were literally reduced to mere rust stains on the masonry"—but the building continued to function by redistributing loads to the masonry below. "Structures can be very forgiving when changes occur slowly over time. As an engineer, you really need to understand the existing material properties and make sure that your interventions respect how the building has actually behaved over the years," Mancini says. "Otherwise, you can invite problems in the future."

TRICKS OF THE TRADE

Thanks to advancements in technology, firms can now perform detailed load testing, analysis of materials, and building performance using modern instrumentation and digital modeling, such as finite element modeling and digital twinning, in ways that weren't possible just a few years ago.

Still, materials remain one of the more daunting aspects of historic preservation projects because the buildings involved often include materials that are unfamiliar, degraded, or both. Most modern engineers aren't trained extensively in working with terra cotta and limestone, for example, in the way they once may have been. Success in historical preservation means getting up to speed on the quirks and characteristics of those older materials—and then getting creative in their application.

"There's an investment, but you're investing with the understanding that these buildings are the places that really define where we are."

JACOB BICE
SENIOR PRINCIPAL
WALTER P MOORE

"It is critically important to understand the beast before you can properly intervene."

GARY MANCINI
MANAGING PRINCIPAL AND RENEWAL PRACTICE LEADER
THORNTON TOMASETTI

"All the details and strategies that you lean on in more conventional projects—tricks about reframing and notching and re-supporting—those all become part of our toolkit or painter's palette for when we do an intervention in a historic building."

EYTAN SOLOMON
SENIOR ASSOCIATE
SILMAN

"When a facility is so historic, such as either Wrigley Field or Climate Pledge, it's just socially unacceptable to tear it down."

STEVE HOFMEISTER
MANAGING PRINCIPAL AND STRUCTURAL ENGINEERING PRACTICE CO-LEADER
THORNTON TOMASETTI

At the Park Avenue Armory in New York City, engineering firm Silman worked to reinforce the large Drill Hall with wrought iron trusses, as well as the adjacent Head House that employed wooden joists and flooring. When developing its strategy, the Silman team leaned on the expertise of colleagues who specialize in wood-framed residential construction—not the expected frame of reference for historical preservation of a Manhattan landmark, but exactly what the job called for.

"All the details and strategies that you lean on in more conventional projects—tricks about reframing and notching and re-supporting—those all become part of our toolkit or painter's palette for when we do an intervention in a historic building," says Eytan Solomon, a senior associate at Silman who helped lead the Park Avenue Armory project.

Similarly, Solomon's team analyzed the wrought iron trusses in the armory's Drill Hall and determined that while the trusses were sound, they would benefit from additional support, given the property owner's plans to use the building as a performing arts venue. The team searched for ways to add support without changing the look of the historic Drill Hall. They came up with a novel solution: welding steel plate reinforcements onto the wrought iron.

The design, Solomon says, was so sensitive that "You can't even tell, unless you're right up close to it and touching it—and maybe not even then, because down to the welding details and the grinding and painting, we worked with the architects to make sure that the [steel elements] were as minimally intrusive as possible."

Of course, it's one thing to devise a smart intervention, and another to implement it—especially in a historic context where every surface is worthy of preservation. That was Solomon's next challenge, and one that's familiar to most engineers working on historic preservation projects.

AN ART AND A SCIENCE

Access to at-risk spaces is often a huge issue in historic preservation projects. In order to get close enough to intervene in support of one element, teams frequently must remove or alter another element—and those building features are often themselves historic and worthy of preservation.

That means creativity and collaboration are crucial. At the Park Avenue Armory, for example, Solomon's team coordinated timing with a concurrent phase of the project that involved a temporary removal of the armory's roof, and that's when they moved in to weld the steel supports onto the old iron trusses.

While typical reinforcement projects involve working behind existing finishes, "A lot of times, you don't have that perfect access when you're trying to preserve the room," says Solomon. "So you pull out all the tricks—like, if the ceiling is to be preserved, do you have access from the floor above so you can get in and do the work that way? Or maybe you're selectively and carefully removing finishes and putting them back."

Removing and replacing certain elements is similar to what Thornton Tomasetti's Hofmeister did on another recent arena preservation project to restore Climate Pledge Arena in Seattle, except at scale. That stadium was constructed for the 1962 World's Fair and was too cramped to accommodate modern professional sports events. So the firm detached and suspended the stadium's roof—the building's most iconic feature—for two years while digging more than 60 feet into the ground so that it could construct a new arena.

Raising the roof wasn't cheap or easy, but it's what made the project possible. And on some prominent historic preservation projects, that's the primary imperative. "When a facility is so historic, such as either Wrigley Field or Climate Pledge, it's just socially unacceptable to tear it down," Hofmeister says. "Building a new ballpark in Chicago might make financial sense from a construction cost point of view, but you can't tear down Wrigley Field. And that often means the economic considerations are different."

For the engineers working on historic preservation projects, the work represents both a technical challenge and also a chance to make a unique and meaningful contribution.

The work of a modern engineering team often isn't especially visible or celebrated; visitors are more likely to appreciate the enduring historical elements. But that's the point.

Says Silman's Solomon: "I've accepted that a lot of our work is not seen by the end users of the building. But it's fun to have the quiet satisfaction that you contributed to something that was difficult to do and has had a really great impact on people." ■

Steve Hendershot *has contributed to* Crain's Chicago Business, Chicago *magazine, and Chicago's NPR affiliate, WBEZ, and is host of the Project Management Institute's* Projectified *podcast. He lives in Chicago.*

CAREFUL CALCULATIONS

Cost is among the greatest impediments to historic preservation projects—and not only because such projects are often more expensive than building from scratch. The other main consideration is unpredictability because the unique elements at play in preservation projects generally mean that costs are difficult to anticipate with precision.

"Anybody can estimate the cost of a new medical office building or a new hospital because there are many comparable [projects] that you can draw data from. There is nothing that you can draw data from on what it's going to cost to jack up a 45-million-pound roof, cut off the footings, extend them 60-some feet down, and build a new arena," says Steve Hofmeister, managing principal and structural engineering practice co-leader at Thornton Tomasetti, referring to his firm's project to rebuild Climate Pledge Arena in Seattle.

Of course, smart engineering can help building owners greatly reduce construction costs and keep projects on schedule. On another Thornton Tomasetti project—230 Park Avenue (also known as the Helmsley Building), the grand Beaux Arts-style commercial high-rise near Manhattan's Grand Central Terminal—the owner was unsatisfied with another consultant's proposed repair solution because it required removing and replacing the enormous terra cotta brackets that support the three story-high decorative columns near the top of the building's ornate facade. After performing an advanced analysis that included a finite-element model of the load path and stresses, the Thornton Tomasetti team proposed a customized cost-effective solution: to reinforce and stabilize the existing brackets in place and install an impressed current cathodic protection system to arrest internal steel corrosion. The approach dramatically decreased overall costs to one-quarter of the earlier proposal and allowed the original historic materials to remain in place, helping to ensure that the project moved forward.

Thornton Tomasetti employed an innovative repair solution for the columns at 230 Park Avenue.

Alligators in the Sewer and Other Myths

BY KAREN ERGER

There's a pervasive urban legend about alligators in the New York City sewer system. The story goes that in the 1930s, baby gators were marketed and sold as children's pets but were flushed down toilets or dumped in street drains when they grew too large for parents' comfort. The sewer-bound saurians thrived, breeding and forming extensive colonies in the bowels of New York; some even say that they became blind and colorless due to the lack of sunlight. Recently, New York celebrated this cherished myth with a bronze sculpture titled N.Y.C Legend depicting an alligator curled around a manhole cover. It's currently on display in Union Square.

Karen Erger

Urban myths can be fun, but risk management myths can cause headaches, problems, and claims. Let's debunk a few of the most persistent and pernicious.

MYTH 1: 'SMALL PROJECT' = 'SMALL RISK'

The idea that "small project" means "small risk" is as enduring as it is incorrect. The fact that the scope of a project and/or its associated fee is modest is no guarantee of an insignificant quantum of risk. In fact, small projects frequently have real potential to generate outsize claims. A surveying project may earn a relatively small fee but result in enormous damages if construction commences in the wrong location and must be ripped out and removed. The peer review services on the Florida International University pedestrian bridge garnered a $61,000 fee, but the damages associated with the collapse were in the millions.

Have you ever heard someone say, "It would take me longer to put together a contract than it will to do the entire project"? While this may be true, professional services agreements are an important tool for balancing the risks and rewards of projects, and this is especially important with small projects, where the reward may be tiny (or, in the case of pro bono projects, nonexistent) in comparison with the risk. A carefully drafted scope is a must, and protective provisions like limitation of liability clauses and the right to rely on client-provided information are key tactics for bringing risk and reward into tolerance.

Small projects are real projects with real risks. Manage them by following the appropriate client selection and contracting protocols, quality processes, and documentation procedures.

MYTH 2: DOCUMENTATION IS JUST CYA

One enduring risk management myth involves documenting client communications. Sometimes engineers feel that this is just CYA—the slightly vulgar acronym for "covering your ass(ets)"—in other words, a defensive, slightly weaselly strategy for deflecting blame and liability if something goes wrong.

But if you're doing it right, documenting client decisions can be CYA of a different kind: "confirming your assignment." Let's say your client makes a decision about the project that you

GETTY IMAGES/MICROVONE

consider unwise or shortsighted. It doesn't violate code or life safety requirements, but it still is likely to generate problems in the future. You explain this to the client; they smile, nod, and tell you to do it their way anyhow.

You email the client confirming this conversation but also reviewing the concerns you have about the client's proposed course of action. The primary goal of this communication is to enable the client to make an informed decision. Sometimes, when engineers talk, clients are thinking of other matters or do not understand what the engineer is saying but would rather walk on their lips than say so. (This happens to lawyers, too, by the way.) Putting the communication in writing may prompt the client to heed your advice.

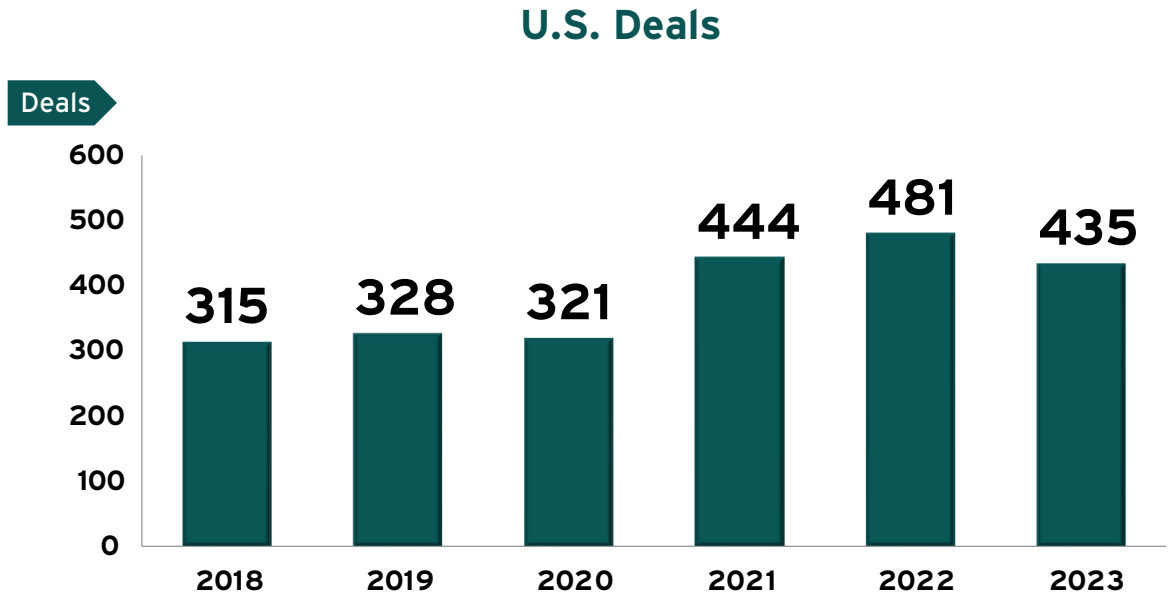
It is true that the *secondary* objective of this communication is to help you defend your design if the client persists in pursuing an ill-advised course of action and is damaged thereby. Being able to defeat the argument that you did not warn the client, or did not do so clearly or loudly enough, is a worthy goal, and there is nothing weaselly about it. This kind of CYA is A-OK.

MYTH 3: WE'RE TOO BUSY FOR QUALITY

OK, I cheated a little here; no engineer would seriously argue that quality can be overlooked when firms are busy. And yet when the construction economy is bullish, and engineering firms are at or over capacity, there seems to be an uptick in claims involving simple errors—mistakes that should have been caught by quality processes but were not. A construction lawyer friend calls this the "very busy office syndrome" (VBOS), and we also see it when the construction market is bearish. When there are too few hands to do the work—whether because of layoffs in a cold economy or a massive influx of projects in a hot one—quality can suffer.

Your firm's two-part strategy for avoiding the heartbreak of VBOS involves being mindful of capacity when taking on new projects and strict adherence to quality processes. As a wise engineer once told me, "It's only an error when it leaves the office." ■

Karen Erger *is senior vice president and director of practice risk management at Lockton Companies. She also is a member of the ACEC Risk Management Committee and can be reached at kerger@lockton.com.*



As Sellers Cash Out, Buyers Cash In

BY NICK BELITZ

The calendar may have changed to 2024, but the story remains the same for merger and acquisition activity in the engineering industry as it continues at near-record levels. Propelled by federal infrastructure funding, the "great recapitalization" of the industry by private equity, and the difficulties baby boomer and Generation X owners face in transitioning ownership internally, ACEC dealmakers have remained extremely active, as indicated by the transactions involving member firms detailed below.

Despite a decrease of 9.6 percent from the record 481 transactions announced in 2022, overall market activity remained significantly above long-term historical levels. Notably, 2023 marked the third consecutive year—and only the third year in history—where U.S. deal volume surpassed 400 transactions.

Owners cashing out their firm equity have benefited from the historically favorable deal valuations that have accompanied the recent step-function rise in A/E and environmental industry mergers and acquisitions. Median valuations that were 6.02x EBITDA (earnings before interest, taxes, depreciation, and amortization) between 2011 and 2017 and 6.05x EBITDA between 2018 and 2020 grew to 7.25x EBITDA between 2021 and September 2023. Valuations for firms of scale—defined as firms with revenues of $75 million to $100 million or more—consistently reached double-digit multiples on EBITDA in 2023.

The competitive landscape for engineering firms continues to be fundamentally transformed as the industry shifts from an employee-owned capital model to a private equity-owned one. While the percentage of U.S. acquisitions completed by employee-owned A/E firms steadily declined, from 79 percent in 2016 to just 54 percent through the first two-thirds of 2023, the percentage of U.S. acquisitions made by private equity-backed firms increased from 12 percent to 39 percent over that same time period.

This great recapitalization by private equity has sparked an unprecedented consolidation of the *Engineering News-Record* (*ENR*) 500. Eighty-six percent of the 65 transactions that included an *ENR* 500 firm between 2021 and September 2023 involved private equity. The percentage of *ENR* 100 firms that are backed by private equity has soared from 4 percent in 2016 to 22 percent in 2023, while the percentage of *ENR* firms that are employee- or ESOP (employee stock ownership plan)-owned contracted from 75 percent to 63 percent over the same time span. Private equity investment in the A/E and environmental industry has driven valuations higher as the median EBITDA multiple paid by private equity between 2018 and 2023 (10.75x) far exceeded those paid by publicly traded companies (7.34x), employee-owned firms (4.94x), and ESOPs (4.17x).

Private equity investments in engineering firms during the second half of 2023 included the acquisition of **Kleinfelder** (San Diego) (*ENR* #42) by Lindsay Goldberg, the purchase of a minority interest in **Langan Engineering and Environmental Services** (Parsippany, N.J.) (*ENR* #46) by investment funds managed by TowerBrook Capital Partners, and the acquisitions of WSB (Minneapolis) (*ENR* #178) and **EST** (Oklahoma City) by GHK Capital Partners (Greenwich, Conn.). In addition, **Horrocks Engineers** (Pleasant Grove, Utah) (*ENR* #135) announced a strategic partnership with Trilon Group (Denver), a family of infrastructure consulting businesses supported by Alpine Investors.

While sellers are profiting from higher valuations, many buyers are doing the same from the post-transaction

performances of their acquisitions. Through discussions with industry CEOs, corporate development officers, and investors and by leveraging experience in advising on over 200 A/E and environmental firm transactions, Morrissey Goodale has established what we believe to be a simple, objective benchmark—the Acquisition Performance Indicator (API)—that measures performance in four key business areas (profits, revenues, backlog, and voluntary turnover rates) a year after a deal is completed.

API results based on the more than 50 firms that submitted applications for Morrissey Goodale's 2023 Best Post-Transaction Performance Award found that, on average, buyers have been *doubling* the profits of their acquisitions while increasing backlogs by 44 percent, boosting revenues by 33 percent, and reducing voluntary turnover rates by 20 percent one year after they closed on deals.

Firm leaders expect the good times to continue to roll in 2024. With backlogs, operating profits, and utilization rates at all-time highs, optimism is sky-high as well, with 80 percent of the A/E and environmental industry leaders who attended Morrissey Goodale's Texas and Southern States M&A, Strategy, and Innovation Symposium in Houston last October expecting 2024 to be an even better year for their firms than 2023.

Following is a list of recent transactions, with ACEC members highlighted in **bold**.

OCTOBER 2023

Langan Engineering and Environmental Services (Parsippany, N.J.) announced that investment funds managed by TowerBrook Capital Partners (London) has entered into a definitive agreement for a minority investment in the company.

Provider of technology-enabled laboratory testing, inspection, and quality management services, **RMA Group** (Rancho Cucamonga, Calif.) (*ENR* #146) announced the addition of Big Apple Group (Hicksville, N.Y.), a leading testing and inspection services firm.

Geotechnical engineering firm Underhill Engineering (Charlottesville, Va.) joined multidisciplined engineering and environmental firm **GEI Consultants** (Woburn, Mass.) (*ENR* #91).

Architecture and engineering firm **SSOE Group** (Toledo, Ohio) (*ENR* #115) acquired Integrated Engineering Services (Santa Clara, Calif.), a firm with expertise in MEP, chemical and process engineering, hazardous materials, and code compliance services.

Bowman Consulting Group (Reston, Va.) (*ENR* #87), a national engineering services firm, acquired Dennis Corporation (Columbia, S.C.), a civil engineering, surveying, and construction management firm.

Inwood Consulting Engineers (Oviedo, Fla.), a civil, environmental, transportation, and water resources engineering firm, joined fast-growing **Ardurra Group** (Tampa, Fla.) (*ENR* #89). With the addition of Inwood, Ardurra further expands its service offerings and presence in Florida.

TRC Companies (Windsor, Conn.) (*ENR* #16) acquired Advanced Civil Technologies (Santa Ana, Calif.), a firm that offers project and program management, highway design, water quality, and planning and project initiation services for large-scale transportation projects.

Engineering, architecture, and surveying firm **Farnsworth Group** (Bloomington, Ill.) (*ENR* #213) acquired **Sterling Design Associates** (Littleton, Colo.), a planning, civil engineering, and landscape architecture firm.

C2AE (Lansing, Mich.), an architecture and engineering firm offering civil, structural, mechanical and electrical, interior design, and landscape architecture services, acquired commercial interior design firm T2 Designs (Brighton, Mich.).

To view the most up-to-date and "live" versions of the M&A heat maps, and to see who are the buyers and sellers in each state, go to www.morrisseygoodale.com.

Nick Belitz is a principal with Morrissey Goodale LLC, a management consulting firm that specializes in the A/E and environmental industry and provides strategic business planning, merger and acquisition, valuation, ownership transition, executive coaching, and leadership development services. He can be reached at **nbelitz@morrisseygoodale.com**.

SEPTEMBER 2023

In another transaction, multidisciplinary infrastructure, environmental, energy, and real estate consulting firm **Bowman Consulting Group** (Reston, Va.) (*ENR* #87) entered into a definitive purchase agreement to acquire Excellence Engineering (Tulsa, Okla.), a provider of engineering, procurement, project management, and automation services to clients in the petrochemical, hydrogen, industrial, and electric vehicle industries.

Benesch (Chicago) (*ENR* #101) entered a new partnership with Infrastructure Data Solutions (Regina, Saskatchewan, Canada), a firm that offers infrastructure asset management optimization and decision analytics software.

Multidiscipline engineering design firm **ESP Associates** (Fort Mill, S.C.) (*ENR* #209) expanded its transportation, water resources, and public utilities services and capabilities through the acquisitions of **CivilCorp** (Victoria, Texas) and Ditesco (Fort Collins, Colo.).

Pape-Dawson Engineers (San Antonio, Texas) (*ENR* #112) formed a strategic partnership with **Poulos & Bennett** (Orlando, Fla.), a land planning, civil engineering, and development services firm.

Concurrent with the acquisition of WSB (Minneapolis) (*ENR* #178), GHK Capital Partners (Greenwich, Conn.) also completed the acquisition of **EST** (Oklahoma City), a transportation infrastructure engineering consulting firm.

Lithos Engineering (Denver), a firm specializing in tunnel and trenchless design and construction technology, joined multidisciplined engineering and environmental firm **GEI Consultants** (Woburn, Mass.) (*ENR* #91).

Engineering and architecture firm **Prime AE Group** (Baltimore) (*ENR* #248) acquired **Jacobi, Toombs & Lanz** (New Albany, Ind.), an engineering, surveying, and construction services firm that supports clients in the transportation, water resources, and infrastructure markets. ■

Standard of Care

Design Professionals, Don't Overcommit!

The standard of care for design professionals is a common law concept from early court cases that evolved over time to become the adopted standard of performance for architects and engineers. The common law standard of care for design professionals is defined as the ordinary and reasonable care usually exercised by a member of that profession, in the same place and at the same time, on the same type of project, under similar circumstances and conditions. The common law standard of care does not require perfect performance.

There are four elements that a claimant must assert in order to state a claim for professional negligence against a design professional:

- **Duty** – There must be a duty owed by the design professional to the party bringing a claim;
- **Breach** – There must be a breach of the applicable standard of care by the design professional;
- **Damages** – There must be actual damages; and
- **Causation** – There must be a causal connection between the design professional's failure to perform in accordance with the standard of care and the actual damages sustained. In other words, the damages must have occurred as a result of the design professional's breach of the standard of care.

Professional liability insurance policies presume that the insured's professional services will be judged based upon the common law standard of care. The common law standard of care exists by operation of law, independently from any contract, based upon the relationship between a design professional and their client. Most professional liability policies exclude from coverage any liability that an insured assumes under a contract that would not exist in the absence of such contract (contractual liability exclusion). Also, most professional liability policies exclude any liability arising from any express warranty or guar-

antee unless the insured's liability arises as a result of a breach of professional duty and would have existed absent such express warranty or guarantee (express warranty/guarantee exclusion).

Given the above, design professionals should be careful when negotiating professional services agreements to ensure that they are not agreeing, by contract, to perform to a higher level than the common law standard of care. Examples of a higher standard of care include the following: 1) committing to exercise the "highest" level of care, 2) acquiescing to deliver instruments of service "free of defects or errors," or 3) stating that, during construction administration, the design professional will ensure that the contractor meets all details of the plans and specifications.

Agreeing to an elevated standard of care may result in your professional liability insurance carrier denying coverage based on the contractual liability exclusion and the express warranty/guarantee exclusion. Moreover, a heightened standard of care could make you more susceptible to an uninsurable breach of contract claim. Courts have held that a design professional who binds by contract to a higher standard of care will be held to such elevated standards. In CH2M Hill Southeast, Inc. v. Pinellas County, 698 So.2d 1238, 1240 (Fla. 2d DCA 1997), the court held that if a design professional agrees by contract "to perform duties beyond those required by ordinary standards of care, the quality of that performance must comport with the contractual terms."

By agreeing to a "highest" standard of care in a professional services contract, you may subject yourself to liability for breach of contract (an uninsurable loss) even though you were not negligent. For example, if, in a lawsuit brought by your client, you prevail on a negligence count but lose on a breach of contract count, the professional liability insurer may not cover the loss on the grounds that it was specifically excluded from coverage.

When presented with an owner-drafted professional services contract, you should strike any express warranties or guarantees of performance. If an owner-drafted contract contains requirements potentially exceeding the common law standard of care or possibly creating uninsurable warranties or guarantees, and the owner refuses to revise or delete, you will want to include disclaimer language such as:

- Notwithstanding any provision in this Agreement to the contrary, Design Professional expressly disclaims all express or implied warranties and guarantees with respect to its performance of professional services, and Owner agrees that no provision herein shall be interpreted to require a standard of performance by Design Professional that is greater than the applicable common law standard of care.
- Design Professional warrants that it shall perform the services in accordance with the applicable professional standard of care. No other express or implied warranties or guarantees are created related to this Agreement or the professional services to be provided.

Owner-drafted professional services agreements often include a provision that the design professional "shall comply with all laws, regulations, codes, and ordinances." Such a clause is problematic because it could be interpreted as the design professional agreeing to comply with laws, regulations, codes, and ordinances that the design professional reasonably believed did not apply to the services being provided. If you agree to absolute compliance with "all laws, regulations, codes, and ordinances" and are later found liable to the owner for breach of contract, professional liability insurers could disclaim coverage due to the contractual liability and warranty/guarantee exclusions. You should tie any obligation to "comply with laws" to the standard of care. Recommended examples are as follows:

- Design Professional shall exercise its professional skill and care consistent with the standard of care to provide a design that complies with applicable laws, regulations, codes, and ordinances.
- The Design Professional shall make reasonable professional efforts, consistent with the standard of care, to comply with applicable laws, regulations, codes, and ordinances.
- Subject to the generally accepted professional standard of care, Design Professional's designs shall comply with applicable laws, regulations, codes, and ordinances.

CONCLUSION

Great care should be taken when reviewing and negotiating professional services agreements to ensure that there is no guarantee or warranty of performance beyond the common law standard of care that could jeopardize your professional liability coverage. It is important to have your broker or counsel review and revise proposed agreements so that the standard of care conforms to that which is insurable under a professional liability policy and there are no uninsurable express warranties or guarantees. ■

READY TO LEARN MORE?

Please contact Jeff Connelly at Greyling, the broker and program administrator for the ACEC BIT, if you would like to discuss choosing the right insurer for your firm. Email Jeff at jeff.connelly@greyling.com or call 833-223-2248.

On the Move

Kansas City, MO-based **TranSystems** announced the following senior leadership appointments: **Tim Rock** was named chief executive officer, succeeding **Richard J. Morsches**, who will remain chair of the company's board of directors. Morsches served as CEO for the past eight years. Rock formerly served as executive vice president of operations. **Rich Markwith** was named president, succeeding **Paul Malir,** who will remain at the firm working in corporate development and as a board member. Markwith most recently served as executive vice president of strategy.

Michelle White has been named chief executive officer of Concord, Calif.-based **Harris & Associates**. She succeeds CEO **Steve Winchester**, who will support Harris' leadership on the board of directors until his departure later in 2024. White has served as the firm's chief operating officer and consulting division president.

Richardson, Texas-based **Halff** announced the following senior leadership appointments: **Jessica Baker Daily** has been named president and chief executive officer, succeeding retiring CEO **Mark Edwards**. Baker Daily previously served as the firm's chief people officer (CPO). **Ben Pylant** takes on the CPO role after serving as senior vice president and water resources practice leader for the past year.

Glen Allen, Va.-based **Schnabel Engineering** named **Chad Mayers** chief operating officer, a new role within the firm. Mayers assumes this role after serving as president of one of Schnabel's business units for the past four years.

Reston, Va.-based **Bowman Consulting Group Ltd.** announced the appointment of **Lance Hendrix** to chief revenue officer to accelerate firm growth and expansion. Hendrix's career includes positions as vice president of business development at the Washington Group, president of Kiewit Power Engineers, and vice president and general manager at Kellogg Brown & Root.

Chrissy Carr has joined Chicago-based **Milhouse Engineering and Construction** as chief engineering officer, industries, to oversee operations and profit and loss responsibilities for the electric and gas utilities, telecom, and aviation sectors.

Chad Snyder has been promoted to managing director for the parking consulting team of **Walter P Moore's** Houston office. Snyder specializes in master planning, shared use analysis, functional design, pedestrian and vehicular wayfinding, and parking technology integration.

New York City-based **WSP** announced the following appointments: **David Cochrane** has joined the firm as senior vice president and transportation program director, where he will be responsible for delivering emerging complex mega-projects. He previously delivered civil engineering transport infrastructure in the U.K., including Europe's largest infrastructure project, High Speed 2. **Shalonda A. Baldwin** has been named transportation business line leader for Northern California, where she'll support WSP's strategic growth, technical excellence, and project delivery. She formerly served as senior vice president for the firm's Advisory Enterprise Management and Strategy Team.

Guillermo "Willy" Ramirez has joined New York City-based **Thornton Tomasetti's** Forensics practice as a vice president. Ramirez has more than 30 years of experience in the design and evaluation of structures.

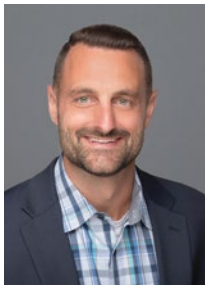

Tim Rock


Rich Markwith


Michelle White


Jessica Baker Daily


Ben Pylant


Chad Mayers


Lance Hendrix


Chrissy Carr


Chad Snyder


David Cochrane


Shalonda A. Baldwin


Guillermo "Willy" Ramirez

Welcome New Member Firms

ACEC Alaska
Professional and Technical Services, Inc.
Anchorage

ACEC Arkansas
Kimley-Horn and Associates, Inc.
Bentonville
Terracon Consultants, Inc.
Bryant
Walter P Moore and Associates, Inc.
Bentonville

ACEC California
Akela Engineering & Consulting
San Diego
Atlas Technical Consultants
Los Angeles
AVS Engineered Operations, Inc.
Visalia
Moll Design and Consulting
Santa Rosa
Salas O'Brien
Irvine

ACEC Colorado
Bighorn Consulting Engineers
Grand Junction
Freese and Nichols, Inc.
Denver
PVR Engineering
Denver

ACEC-FL
Pistorino & Alam Consulting Engineers, Inc.
South Miami
Vortex Company
Orlando

ACEC Georgia
Avaabi Consulting Ltd Co.
McDonough
Scanlon Engineering Services, Inc.
Griffin
Trilogy Engineering, LLC
Marietta

ACECHawaii
Ka'e Design, LLC
Kaneohe

ACEC Indiana
Kapur and Associates, Inc.
Fort Wayne

ACEC Kansas
Flint Engineering Company
Wichita
OWN, Inc.
Overland Park

ACEC-KY
Cannon & Cannon, Inc.
Bowling Green
Connico, LLC
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Framingham

ACEC/MN
Kismet Consulting, Inc.
Eden Prairie

ACEC/Missouri
BranchPattern, Inc.
Kansas City
Trileaf Corporation
Saint Louis

ACEC-NH
McClure
Portsmouth
Team Engineering
Bedford

ACECNJ
Loring Consulting Engineers, Inc.
Princeton

ACEC Nevada
PK Electrical, Inc.
Reno

ACEC New York
Grant Engineering & Construction Group, LLC
Newark, New Jersey

ACEC/NC
BGE, Inc.
Charlotte
Building Envelope Consultants and Scientists
Raleigh
Cavanaugh & Associates P.A.
Winston-Salem
CES Group Engineers, LLP
Charlotte
Holt Consulting Company
Raleigh
The Isaacs Group
Charlotte
Tomo Engineering, PLLC
Durham

ACEC Ohio
TBD Advisors, LLC
Richfield

ACEC/PA
Tectonic Engineering Consultants, Geologists & Land Surveyors D.P.C.
Philadelphia

ACEC-SC
VIAS Infrastructure, PLLC
Wake Forest, North Carolina

ACEC Tennessee
Cannon Group of Tennessee, Inc.
Lenoir City

ACEC Texas
Atlas Technical Consultants, LLC
Lubbock
Beckwith Electronic Engineering Co.
San Antonio
Gil Engineering
Austin
Lloyd Engineering, Inc.
Bellaire
Mesa Integrated Solutions, Inc.
Austin
Stanley Consultants, Inc.
Austin
Voss Engineering, Inc.
Corpus Christi
White Stone Environmental
Mansfield

ACEC Virginia
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Reston

ACEC/WV
Gwin, Dobson & Foreman, Inc.
Altoona, Pennsylvania

ACEC-Wyoming
Ardurra
Cheyenne
KL&A, Inc.
Buffalo

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Business Management
Oakland County Economic Development - BR&G

Consultants – Finance
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Human Resources – Employee Benefits
Relational Advisors

PDHs for Engineers
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For further information on national affiliate members, go to: https://bit.ly/ACEC-Natl-Affiliate-Members or contact Erin Wander at 440-281-0464 or ewander@acec.org.

APRIL 2024

23 Managing a Multi-State Business: A Strategic Guide to Compliance & Growth (online series)

MAY

1 Market Briefings: Adaptive Re-Use – What's Next for Office? (online class)

13-16 ACEC Annual Convention and Legislative Summit, Washington, D.C.

15 2024 Engineering Excellence Awards Gala, Washington, D.C.

20 Membership Mondays: Maximize Your ACEC Member Benefits (online class)

21 Managing a Multi-State Business: Organizing a Remote & Mobile Workforce (online series)

28-June 6
Managing Small Projects Successfully: How to Prevent Small Projects from Becoming Big Problems (online course)

JUNE

5 Access Exclusive Member Benefits Through the ACEC Trusts (online class)

JULY

9-Sept. 3
Project Management 101: Laying the Foundation for Superior Project Managers (online course)

AUGUST

21 Market Briefings: Health Care & Life Sciences (online class)

To sign up for ACEC online seminars, go to **www.acec.org/education.**

Additional information on all ACEC activities is available at www.acec.org.

Get Involved

ACEC COALITIONS

M/E/P

Coalition of American Mechanical and Electrical Engineers (CAMEE)

- Join **education** sessions covering industry trends, economic projections, decarbonization/net zero initiatives, and electric vehicle influences in design.
- Attend CAMEE-sponsored **events** at ACEC conferences, including roundtables, presentations, and expert advice on how to make profitability a top priority.
- Get **advocacy** support at the federal level on initiatives such as the R&D tax credit, the CHIPS and Science Act, and the Infrastructure Investment and Jobs Act.

SURVEYORS

Coalition of Professional Surveyors (COPS)

- Access the latest COPS news and **publications** as well as archived education sessions.
- Learn how your firm can receive federal **advocacy** support on key regulatory initiatives affecting the professional surveying community.
- Connect with your peers and **network** with others facing the same challenges as your firm.
- Enjoy COPS-sponsored **events** at ACEC and Coalition conferences. ■

Find the Right Coalition for Your Firm

Scan the code to learn more about our distinct coalition groups organized by practice area or firm size.

GETTY IMAGES/PONYWANG

Is Your **Fiduciary Liability** Keeping You up at Night?

Our participating plan sponsors sleep well at night knowing that the ACEC Retirement Trust shoulders unprecedented fiduciary responsibility for them by taking on the role of discretionary trustee and investment manager.

As you take a closer look at the retirement benefits you want to provide to your employees, it is important to determine the reasonableness of plan fees, as well as your fiduciary liability as a plan sponsor. In the chart below you will see how asset-based fees impact the cost to your plan.

How Does Your Plan Compare?

Examples of Asset-Based Fees Charged on Total Plan Assets					
Total Assets	**25 basis points**	**50 basis points**	**75 basis points**	**100 basis points**	**125 basis points**
$200,000	$500	$1,000	$1,500	$2,000	$2,500
$500,000	$1,250	$2,500	$3,750	$5,000	$6,250
$2 Million	$5,000	$10,000	$15,000	$20,000	$25,000
$10 Million	$25,000	$50,000	$75,000	$100,000	$125,000
$50 Million	$125,000	$250,000	$375,000	$500,000	$625,000
$100 Million	$250,000	$500,000	$750,000	$1,000,000	$1,250,000

Although the ACEC Retirement Trust relieves you from some fiduciary responsibilities, it is **YOUR** responsibility to select the retirement plan program that not only meets your firm's benefit goals, but is also in the best interests of your participants. **With the buying power of the ACEC Retirement Trust, you will see our fees are well below the fees stated above.**

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ENGINEERED FOR YOUR FUTURE

Learn How Your Plan Compares

We invite you to take advantage of a **complimentary plan fee comparison** and fiduciary review by reaching out to Lydia Zabrycki. You can send an email to **Lydia.Zabrycki@captrust.com**, or simply scan the QR code below!

SCAN HERE


ACEC
LIFE/HEALTH TRUST
Denver Northwest Community Bike Lane Design
Project By: Stolfus & Associates, Inc. for Parsons Corporation
An ACEC Life/Health Trust member firm
ACECLifeHealthTrust.com