Arkansas Professional ENGINEER

Official Magazine of the American Council of Engineering Companies of Arkansas & the Arkansas Society of Professional Engineers

Broadway

show

Garver's Broadway Bridge replacement design won this year's Grand Conceptor Award at the ACEC/A's Engineering Excellence Awards Gala. Pictured are Garver's John Ruddell, P.E., S.E., right, and Rick Ellis, ArDOT's Bridge Division head.

ACEC/A Member Spotlight Iconic firm emerges from recession

After a layoff, Little Rock's Britton started company that has grown to 13 employees

What do you do when you're laid off during a recession? If you're Keith Britton, P.E., you start an engineering firm.

Britton, 44, incorporated Iconic Consulting Group in June 2008, while he was finishing earning his master's of business administration, and then began growing the business full-time starting August 2009. It now has three offices: his first in Dallas; one in Little Rock that opened in 2015; and another in Houston that hasn't yet generated revenue.

Britton started the company as he was being laid off from Jacobs Engineering during the recession.

"There's no better way to start than right at the bottom, right? You can only go up, so I just felt that I stepped out on faith," he said. "I'm a very spiritual person, so part of that is just stepping out on faith that God was leading me in the right direction, that He was going to be there to support me through this journey. And so I just went forward with it."

The firm has grown every year since and now has 13 employees, including three construction inspectors based in Arkansas and three other engineers. They are based in Dallas, but like him they travel to Arkansas often. His goal is to reach 20 employees by 2020.

"I don't want to increase revenue just for the sake of increasing it," he said. "I want to make sure that we grow smart, and we take on projects that we can handle because we want to focus on the quality of work that we're providing for our clients. One of our taglines is 'Excellence: Every client, every time."

From Little Rock to Dallas and back

Britton graduated from the Little Rock School District and pursued civil engineering after talking to an uncle who acquired land and rights of way for Union Pacific. He graduated from the University of Arkansas with a master's degree.

His path from there to founding Iconic Consulting Group was a winding one.



In Kansas City, Missouri, he worked for Black and Veatch and then Sprint but was laid off during the 1990s' dot-com bust. He then moved to Savannah, Georgia, to work for Thomas & Hutton, and then to Atlanta to work for Gresham, Smith and Partners. When his grandmother fell ill, he moved back west, eventually settling in Dallas to work for Carter & Burgess, which was later bought by Jacobs. She lived the last 18 months of her life with him.

After being laid off, Britton approached Jacobs asking about opportunities for subcontracting work and signed a contract to work for the North Texas Tollway Authority. He signed his first prime contract to expand a parking lot at Brookhaven College at Farmers Branch, Texas, in 2010, when an influx of laid-off workers were enrolling in school.

Garver an important relationship

Garver, where he interned while in college, has been an important ally. He had become friends with Garver's Jerry Holder, P.E., while Holder was working for another firm in Dallas. Several years ago, Britton paid a sales call on Holder at



KEITH BRITTON, P.E., left, founded Iconic Consulting Group in June 2008. Top, the firm provided structural inspection services for Highway 412 work in Benton County as a subconsultant. Above, Iconic served as a subconsultant to Garver and provided construction oversight for parking lot improvements at the Bill and Hillary Clinton National Airport.

Garver. That led to a mentor-protege relationship with Garver where he learned how to better manage his business.

"That really provided me a very good foundation to right the ship on things that I may have been doing wrong and also perfecting things that I was doing right," he said.

The two firms have worked together on projects with one serving as the prime and the other as the sub. One of Iconic's biggest contracts involves subbing for Garver at the Bill and Hillary Clinton National Airport.

Britton hopes to further increase his Arkansas presence.

"It's a cool thing to be able to come back home and open up an office in the city that I grew up in, that I have a desire to try to create some relationships with the school district there, the school district that pretty much provided me the foundation to even go to college," he said. "I know it's kind of in a different time right now, but I want to be able to create some relationships, maybe offer some high school internship opportunities, be able to give back to the community that raised me, essentially."



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18 Garver won the Grand Conceptor Award for its Broadway Bridge replacement design at the Engineering Excellence Awards banquet March 8, while Crafton Tull won the People's Choice Award for the city of Batesville's bicycle and pedestrian master plan. Pictured are Garver's John Ruddell, P.E., S.E., right, and Rick Ellis, ArDOT's Bridge Division head.

Departments

- 6 ACEC/A President's Column
- 7 ASPE President's Column
- 8 In the News
- 10 Advertiser Index
- 12 Calendar of Events
- 13 ACEC/A Affiliate Members
- 15 Executive Director's Column
- 27 Education News

News and Features

2

Spotlight / Iconic Consulting Group

What do you do when you're laid off during a recession? If you're Keith Britton, P.E., you start an engineering firm that has grown to 13 employees.

14

Working group begins licensing study

Governor Asa Hutchinson wants a group studying occupational licenses to reduce red tape. But the group's chairs said occupations dealing with public safety probably won't be a focus.

16

Brown exploring education market

With a \$225,000 federal grant, Brown Engineers is developing an educational tool that could teach students across the country about the water distribution process – and could open up a new market segment for the firm.

18

28

Cover / Garver's bridge a Grand Concept

The ACEC/A's Engineering Excellence Awards attracted a record number of entrants, with Garver's Broadway Bridge the winner of this year's Grand Conceptor Award.

The Legislative Engineer

In an exclusive interview with *Engineering Inc.*, Rep. Bruce Westerman discusses the prospects of an infrastructure bill, the economic implications of the new tax law, and why his engineering background serves him well as a congressman.



ENGINEERING AMERICA'S BACKBONE

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Toward Zero Deaths: Engineering

Each year I look forward to our annual Engineering Excellence Awards Gala as a time to get together with colleagues and clients to honor the best our industry has to offer. I was especially honored this year to address such an esteemed group as the current president of the ACEC/A. A record number of participants and at-

tendees gathered at the Governor's Mansion, where Gov. Asa Hutchinson welcomed people

as they arrived. I would like to thank all the organizers who pour their time and energy into planning this special event for us. Thank you for your dedication.

In my previous entries, I discussed the Toward Zero Deaths program created when the Arkansas Department of Health, Arkansas State Police, and Ar-DOT joined to update the Strategic Highway Safety Plan. I outlined the first two steps: EDUCATION and ENFORCE-MENT. The next step is the one we know best: ENGINEERING.

As engineers, we have the opportunity to apply our knowledge in a way that drastically reduces highway fatalities caused by roadway departures and intersections. In my last column, I addressed the importance of ENFORCEMENT. By staying current on advancements in our industry, we can help local governments determine where and how to use infrastructure improvement funds most efficiently. There are too many methods to name in a short column, so I have chosen to focus on two, rumble strips and cable median barriers.

According to the United States Department of Transportation's Federal Highway Administration (FHWA) website, "More than half (53 percent) of U.S. fatal crashes occur after a driver crosses the edge or centerline of a roadway. Twothirds (67 percent) occur in rural areas." We know ENGINEER-ING can greatly reduce these numbers. One way is to push the installation of rumble strips. A study conducted by the National Highway Traffic Safety Administration (NHTSA) found that centerline rumble strips reduced roadway departure crashes by 18 to 64 percent. As engineers,

we know that properly placed rumble strips create noise and vibration that alert drivers

to steer back to the roadway. Often the driver is distracted, tired, or driving in less than optimal weather. The NHTSA study concluded that, when the analysis was restricted only to crashes caused by distracted drivers, roadway crashes decreased 40 to 80 percent; that is a success rate we cannot ignore.

The FHWA cites a recent National Cooperative Highway Research Program analysis finding a 97 percent reduction in cross-median crashes on rural divided highways where cable barriers were present. It is up to us to impart that information to our clients. Once we explain that the installation is a cost-effective, adaptable, and less invasive way to improve roadway safety, we are that much closer to achieving the goal of reducing fatal crashes in Arkansas to zero.

Engineers have a unique responsibility to enhance public safety. I encourage all of us to arm ourselves with statistics like those mentioned above so we can spread the word to the cities and towns who depend on our expertise to save lives.

I will end this column as I have ended my two previous columns. The mission of the ACEC is to be the voice of the engineering industry through government advocacy, political action, and business education. By including proven measures to protect citizens, we put a voice to the importance of our industry.



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Kids (and) adults need to know what engineers do

What does an engineer do? I recently conducted a survey of 60 students in kindergarten through third grade at a rural school in Arkansas to learn what they think

Students were also asked what doctors and lawyers do. All of the answers were fairly accurate for doctors. Doctors help vou feel better again, give you shots/medicine/stitches, do

various health tests on you. The

answers weren't as accurate for lawyers but still mostly reflected an understanding of their functions. Lawyers help you at court, make sure you do the laws, help press charges against people, "helps you in trial by jury to not go to jail."

Engineers? We steer trains, work on cars, and fix your engine. Only one thirdgrader had any understanding of what an engineer does. He said, "He builds roller coasters, designs buildings, and makes cars." When asked how he knows what an engineer does, he said that he has been doing research because he wants to be an engineer. Another observation is that there were fewer answers given for the engineer question, which indicates more of them had no idea what to say.

Why do we care? An altruistic reason is that we care about the engineering profession, which helps society, so we need a pipeline of new talent. A more selfish reason is that it's more difficult to protect the profession when people don't know what it is. When someone wants to eliminate the certification for medical doctors, people will generally react in shock and be opposed. When there's talk of eliminating licensure for engineers, many people don't know to react because they don't really know what an engineer does.

In a February 2018 NSPE Update "Across Nation, Threats to PE License Grow," NSPE Executive Director Mark Golden said professional engineers face a greater challenge than other learned professions. While most people understand the legal and medical professions, they aren't as familiar with the engineering pro-



Paul Speers, P.E. **ASPE President**

fession because they aren't the individual consumers of its services. He said, "It's harder for members of the public or decision makers that impact that regulation to understand the role of the engineer. That just makes our job that much harder, but all the more important." So thankfully, we have the ASPE and NSPE educating people who can dramatically

change our profession.

The February update from Sen. Tom Cotton included a statement, "Dr. John English, Dr. Larry Whitman, and Ms. Joni Lee stopped by to discuss their efforts on behalf of engineering education in Arkansas." Sen. Cotton probably knew engineers aren't train drivers and car mechanics, but he likely has an even better understanding thanks to that visit from the deans of the engineering schools at the University of Arkansas (English) and the University of Arkansas at Little Rock (Whitman) along with UA Little Rock's chief government relations officer (Lee). We can all utilize our particular gifts and opportunities to educate others about engineering.

Of course we want policy makers to understand our profession, but we can also teach future policy makers and future engineers so they understand engineers as well as they understand doctors and lawyers. Arkansas Tech University has on its website under the heading "What is engineering?" this explanation: "A simple definition is the application of math and science to solve problems and harness nature for the benefit of humankind." This is a quick explanation that older students would understand. Giving talks and demonstrations at schools makes an impression on younger and older students. Provide information on engineers so math teachers, for example, can tell their students how math is used "in the real world." Share your knowledge with others while thinking about how to make it fun and interesting from their perspective. You can help others and promote your profession at the same time.

Garver's Williams distinguished UA Engineering alum



Garver President and CEO Williams. Dan P.E., been has named a 2018 Distinguished Alumnus by the University of Arkansas College of Engineering. Williams, who

Williams

graduated in 1981 with a Bachelor of Science in Civil Engineering, will be honored during an April 21 banquet in Fayetteville along with other alumni who have provided leadership while achieving distinction in both the engineering field and their communities.

Williams arrived at Garver one year after graduating from the University of Arkansas. First a design engineer working on airport and civil projects, he was instrumental in helping the company open a new Tulsa office in 1993. He became Garver's chief operating officer in 2004, and in 2012 became its president and CEO. He is currently the president of the Arkansas Academy of Civil Engineering, a group of dedicated alumni who have become contributors to the College of Engineering, to which he was inducted in 2003.

"Everything I've done as an engineer has been because of the education I received at the University of Arkansas,"





Garver airport project finishes fast, wins award

A Garver-led project that provided Rogers Executive Airport with a rehabilitated runway ahead of an already aggressive timetable has won a national award.

Garver provided planning, environmental, design, and construction phase services for the project that completely rehabilitated Runway 2-20, highlighted by a construction phase that covered eight days and finished 24 hours ahead of schedule. The project was recently awarded the Ray Brown Airport Pavement Award from the National Asphalt Pavement Association for the highestrated airport pavement in the nation.

"This project has provided a growing airport with a new runway surface that meets a need for its growing client base," said Garver Project Manager Adam White, P.E. "Because of these changes, the airport can now handle a more diverse mix of aircraft, and thanks to a combined effort between Garver's Aviation and Construction Services teams, the con-



tractor, and airport staff, operations were affected for only a week."

Rehabilitation of the airport's lone runway consisted of full reconstruction of the runway keel section and a



White

mill and overlay of the remaining runway surface. With these improvements, Runway 2-20 can now support aircraft up to 100,000 pounds. Construction included 76,000 square yards of milled surface, 14,000 tons of asphalt, 19,000 linear feet of pavement edge drains, and full rehabilitating of the runway lighting circuit, including new four-box LED PAPI systems.

To make sure the airport's operations were affected as little as possible, Garver's Construction Services Team worked with Emory Sapp & Sons around the clock on 12-hour shifts, with daily meetings to address project progress.

Garver adds to Urban Planning Team in Fayetteville

CFM,

AICP,

Team

ASLA, has joined

Garver as an ur-

ban planner based

in its Fayetteville

office. From there,

Richey will help

boost the Urban

that provides cli-

Planning



Richey

ents with both ongoing planning staffing and project-based planning assistance.

Richey brings more than a decade of experience to Garver, having worked in local government in Northwest Arkansas as a planning director and as a consultant creating plans and zoning overlays while providing assistance for various communities.

Garver's Urban Planning services have routinely provided creative, implementable solutions for the communities it serves, completing comprehensive plans, land use regulations, bike and pedestrian plans, master street plans, and corridor plans.

Those core tenets will remain, but now they'll be delivered by an expanded staff with an ability to reach even more markets while serving additional clients.

"Adding Juliet to our team will only make us better, while allowing us to provide our services to an even wider variety of projects and clients," said Garver Urban Planning Manager James Walden. "As we continue to grow, we look forward to being a regional leader in urban planning, providing community engagementdriven, implementation-focused planning solutions and services to even more communities."

In addition to Richey's arrival, Garver's Urban Planning Team is collaborating more and more with other Garver services. Currently, it is working with Garver's Water Team on a sewer extension study providing land-use modeling, as well as a corridor study in Florence, Alabama.



MCE providing site design for Arts Center redo

Big changes are happening at the Arkansas Arts Center, and McClelland Consulting Engineers is part of those changes.

MCE is providing the surveying, civil and site design, including low-impact storm drainage and utilities, for the \$70 million renovation. Groundbreaking is set to take place in the fall of 2019.

Plans for the renovation were released by lead architect Studio Gang in February, with Little Rock-based Polk Stanley

Wilcox supporting locally. The updated Arts Center will feature 127,000 square feet of renovated and new spaces including an indoor/outdoor restaurant overlooking MacArthur Park, a new north entrance revealing the original 1937 Museum of Fine Arts facade, an additional second floor of galleries, and public plazas. The plans focus on a more cohesive flow between the eight previous additions to the Arkansas Arts Center, as well as a more harmonious relationship with surrounding MacArthur Park. The concept also includes expanded artist studios and educational facilities, a new research center and laboratory.

Little Rock residents in 2016 voted to bond the revenue from a 2 percent lodging tax to revitalize the Arts Center along with MacArthur Park and The MacArthur Museum of Arkansas Military History.

The original Museum of Fine Arts opened in 1937. In 1959 funds were raised *Continued on next page*

MCE congratulates our partners on their ACEC Engineering Excellence Awards!



We are honored to be the engineer on these award-winning projects!

Environmental Winner: Cameron Bluff Amphitheater with Arkansas State Parks

Special Project Winner: Benton Riverside Park with City of Benton

> Water and Wastewater Winner: Huntsville Biosolids Dryer with Huntsville Water Department

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In the News (Cont'd)

by local organizations to add a theater, art school, and dance center. Soon after this, the museum was renamed the Arkansas Arts Center to serve the entire state.



MCE does design work for Children's **Hospital NW**

McClelland Consulting Engineers provided the civil site design and other services for the new 235,670-square-foot Arkansas Children's Hospital Northwest.

The new facility in Springdale opened Feb. 27 after its construction on 37 acres was announced in August 2015. The region's first and only pediatric hospital and emergency room offers a pediatric surgery unit with five operating rooms, numerous ancillary and diagnostic services, child-life social work and pastoral care programs and outdoor gardens.

MCE provided the initial site assessment and survey, civil site design, programming, planning, geotechnical evaluation, construction materials testing, utility engineering, utility distribution and construction contract administration and observation.

The project also included site planning to accommodate a helicopter landing pad and future hanger, a 16,230-square-foot central plant/utility building that supports the hospital, and the associated utility extensions/upgrades necessary to support the new campus.

"As a fast-paced and early site package project, we knew we were in for a challenging project. But, with a team comprised of top-notch professionals including Polk Stanley Wilcox, Bernhard TME, Nabholz Construction, and in combination with the desire of both the City of Springdale and Springdale Water Utilities to ensure a successful project, we were able to deliver a completed project that benefits all of Northwest Arkansas," said Nathan Streett, PLA, land development department head and project manager.







Streett

MCE names four new associates

MCE has promoted four to associate. Jacob Gillip, P.E., a project manager in MCE's Water/Wastewater Department in Little Rock, has 12 years of experience as a professional engineer and is currently licensed to provide engineering design services in Arkansas, Mississippi, Missouri, North Dakota, Oklahoma and Texas. He graduated from the University of Arkansas with a Bachelor of Science degree in Civil Engineering.

Nick Batker, P.E., CFM, is a project engineer and certified floodplain manager with MCE's Water/Wastewater Department in Fayetteville. Batker is licensed to provide professional engineering services in Arkansas, Missouri, Oklahoma and Texas. He is a graduate of Texas A&M University and holds a Bachelor of Science degree in Civil Engineering.

Eric Anderson, P.E., works with MCE's Transportation Department in Fayetteville. He holds three degrees from the University of Arkansas: Bachelor of Science in Geology, Master of Science in Geology and Bachelor of Science in Civil Engineering.

Nathan Streett, PLA, is a registered professional landscape architect in the

Fayetteville office. He helps lead MCE's Land Development Department and has been with MCE since 2015. He graduated from the University of Arkansas with a Bachelor of Landscape Architecture.

MCE staffers pull invasive plants in Fayetteville

Volunteers



MCE's Favetteville office recently partnered with the Fayetteville Parks and Recreation Department and the Fayetteville Government Environmental Action Committee to assist in removing

from

Reeves.

invasive plant species from the Veterans Memorial Park and trail at Lake Fayetteville. The project also included opening up a portion of the sight lines along the soft-surface trail.

MWY quickly integrating into **Olsson Associates**

McGoodwin Williams & Yates (MWY) joined Olsson Associates, a national engineering and design firm, in January and immediately began working with several of Olsson's practice groups.

In the News is continued on page 12

Advertiser Index

Garver Co	ver
Improved Construction Methods	3
Crafton Tull	5
FTN Associates	8
McClelland Consulting Engineers	9
Olsson Associates	11
Hawkins-Weir Engineers	13
RP Power	15
Brown Engineers	17
CWB Engineers	19
Crow Construction	21
B&F Engineering	23
BSX Insurance	25
ETEC	27
Consolidated Land Services	29
New Water Systems	31





FACES

McGoodwin Williams & Yates is now a division of Olsson Associates, a fullservice engineering and design firm with a local presence and a national reach. You know us for our technical expertise in water and wastewater projects in Arkansas, but we now offer a broader range of engineering-related services designed to improve communities.

You'll still see our friendly faces. We just have more of them.

In the News (Cont'd)

"They're learning about the breadth of Olsson resources they now have at their disposal," said John Olsson, executive vice president of consulting services at Olsson. "They have started to pull in new resources from Olsson on some projects, but this is just the beginning. Once they get more comfortable and deepen the level of trust in how we work, we will see more integration. The Arkansas group appreciates quality and strong client connectivity, so we already work from the same playbook."

Being able to offer clients more services is one reason MWY embraced the idea of joining Olsson. When MWY marked its 70th year in 2016, leaders were deciding whether to grow organically or to find a larger firm to join.



Brad Hammond, P.E., served as MWY's president before the acquisition. As the team leader of the Fayetteville office, he said, "As we learned more about the company, we saw that Olsson's values aligned

Hammond

with ours. When we joined Olsson, we could offer our clients the service they expect from us but on a much larger scale."

MWY focuses on providing civil engineering services as they relate to municipal infrastructure, with a particular emphasis on water and wastewater facilities.

Olsson is a multidisciplinary engineering and design firm creating projects throughout the United States since 1956. The firm offers comprehensive design and consulting services in site/civil, transportation, water, environmental, field operations and facilities. The company's 1,000 employees work out of nearly 30 offices in eight states.

"Joining Olsson positions our employees for greater success," Hammond said. "And our clients will benefit from the additional services and expertise we now offer. Olsson benefits from our water/ wastewater and municipal infrastructure expertise as well as from our knowledge of the area. We found the perfect partner in Olsson."

MWY will take on the Olsson Associates name July 1.



ACEC Annual Legislative Conference April 15-19 Washington, D.C.

> NSPE Conference July 17-23 Las Vegas, Caesar's Palace

ACEC Deep South & ACEC/A Annual Conference July 26-29 Sandestin, Florida



Crafton Tull designs Mercy Health Clinic

Crafton Tull provided the civil engineering, landscape architecture, and surveying design services for the new Mercy Health Clinic being built in Springdale. The 59,000-square-foot, 30-acre project called for road widening at Elm Springs and 48th Street as well as improving the intersection located there. Scheduled for completion in spring 2019, the facility will include a helipad, full emergency room, and imaging department.

Central Chapter Golf Tourney is May 3

The 15th Annual ASPE Central Chapter Golf Tournament will be Thursday, May 3 at The Country Club of Arkansas. The tournament benefits the Central Chapter scholarship fund and Habitat for Humanity of Central Arkansas. For more information, contact Claire McKinney at CEMcKinney@GarverUSA.com.

BancorpSouth has a new name: BXS Insurance

BancorpSouth Insurance Services, Inc. has changed its name to BXS Insurance as of Jan. 1.

BXS Insurance President Markham McKnight said in a press release that the change is being made to unite the agency's 630 teammates across nine states as one organization.

"BancorpSouth Insurance Services traces our roots to 1882," McKnight said. "Its growth was the result of local and regional agencies becoming part of a larger entity. That growth continues today. While we will always be mindful of the legacies these agencies have, now is the time to ensure we are building a collective brand and legacy with one vision while still providing our clients the best service possible."



Ken Estes is the senior vice-president and risk consultant in the Little Rock office.

McKnight said the name will allow colleagues to promote BXS Insurance in the same way, regardless

of their location.

"We are committed, as one organization, to providing our clients with every resource at our disposal to make certain their needs are met," he said. "For more than 130 years we have focused on forming relationships to understand our clients' risks and design plans that address those risks. We will continue to build our legacy by helping to protect the legacies of others."

BXS Insurance (bxsi.com), a whollyowned subsidiary of BancorpSouth Bank, is licensed in all 50 states and is the nation's 38th largest insurance firm based on the latest rankings by Business Insurance. It currently operates 31 offices.

Boozman bill would bundle H2O projects through WIFIA act



Sen. John Boozman, R-Arkansas, is a cosponsor of a bipartisan bill that would allow states to bundle water and wastewater projects and give smaller communities access to a program currently

BUUZIIIaii

available only to larger ones.

The Securing Required Funding for Water Infrastructure Act (SRF WIN) would authorize \$200 million each year in federal loans over five years. The money would support state revolving fund projects through the Water Infrastructure and Innovation Act (WIFIA) loan program.

Boozman chairs the Environment and Public Works' Subcommittee on Fisheries, Water and Wildlife. He introduced the bill along with Sens. Jim Inhofe, R-Oklahoma, Cory Booker, D-New Jersey, and Dianne Feinstein, D-California.

The WIFIA program was created as a five-year pilot program by the Water Resources Reform and Development Act of 2014. It provides credit assistance for hard-to-finance large water infrastructure projects. Projects must be at least \$20 million or, in rural areas, \$5 million.

Loans come from funds from the U.S. Treasury and are loaned at Treasury rates. Funding was \$20 million in fiscal year 2015 and increases to \$50 million in 2019.

Meanwhile, many smaller projects are funded through State Revolving Loan programs funded under the Clean Water Act and Safe Drinking Water Act.

According to Joe Brown, Boozman's legislative assistant, the legislation would allow states to bundle projects into one WIFIA proposal. The bill would make federal state revolving fund loans available to communities that are too small to qualify for WIFIA loans and not poor enough to qualify for other funding mechanisms. It's estimated that the WI-FIA program can produce 65 times its cost to the federal government because it relies on loans. The communities would have 35 years to pay back the loans.

Continued on next page

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In the News (Cont'd)

The bundling mechanism would speed up the process because the EPA would be considering one large proposal while relying on the states to perform the vetting for the smaller projects contained within.

The bill also would waive the current \$100,000 application fee for revolving loan fund projects and limit the turnaround in the application process to 180 days. Also, the EPA will provide a detailed explanation for rejections, helping states resubmit better proposals.

The bill has bipartisan support in both houses of Congress. Co-sponsors include Sen. Thad Cochran, R-Mississippi, chairman of the Appropriations Committee; Sen. John Barrasso, R-Wyoming, chair of the Environment and Public Works Committee; and Ihhofe, chair of that committee's Transportation and Infrastructure Subcommittee. Boozman is a member of the Transportation and Infrastructure Subcommittee. Feinstein also serves on the Appropriations Committee. Identical companion legislation was introduced in the House of Representatives.

Brown said the bill has support from a diverse collection of conservation, labor and manufacturing interests. ACEC supports the bill.

Working group begins licensing study

Governor ask for balance; chairs say occupations dealing with safety not an issue

Governor Asa Hutchinson wants a group studying occupational licenses to reduce red tape. But the group's chairs said occupations dealing with public safety probably won't be a focus.

The Red Tape Reduction Working Group will produce a report about the state's occupational licensing requirements this fall before the 2019 legislative session. The governor formed the group and appointed five state senators, five state representatives, and five others.

In a brief address before the first meeting Feb. 21, Hutchinson said the group must evaluate how much risk each occupation offers the public. He said he had met with a contractor in Springdale who had described the profession's barriers.

"It wasn't any question at all that when it comes to contractors, they need to be licensed," he said. "But how many do you need to have, and is it at the right level that we have, and is there any way to make this less burdensome?"

Chair: Leaving public safety alone

Rep Bruce Cozart, R-Hot Springs, the group's co-chairman and a licensed residential contractor, said afterwards that highly educated professionals probably won't get a serious look. Likewise, "If it's public safety, and there's an issue that would affect safety or consumer protection, we'll probably leave those alone."

An example of a requirement that could be reconsidered is the high number of training hours – 1,500 – required to be a licensed cosmetologist, Cozart said. CHAIRS. Sen. John Cooper, R-Jonesboro, right, and Rep. Bruce Cozart, R-Hot Springs, chair the working group.



The group's other co-chair, Sen. John Cooper, R-Jonesboro, said during the meeting, "If we look at something and say it has a health and safety component, then we can recognize that it probably would qualify for a pretty significant amount of regulation. If it does not, then maybe we should ask another question about why are we doing this?"

However, Cooper said structural changes are needed.

"I don't think we should consider our work done with the low-hanging fruit," he said.

Comparing to other states

Hutchinson pointed out that licensing burdens are a point of comparison between states, saying, "This is not just something that is cooking in our minds, but it is something that is looked at nationally, and nationally there are scorecards going out, and Arkansas is not scoring very well." Arkansas had 580 different types of occupational licenses in 2017, as listed in the Department of Workforce Services' Directory of Licensed, Certified and Registered Occupations in Arkansas. Some of those were closely related, such as the six different types of licenses handed out to teachers. Twenty licenses are Oaklawnrelated, including one for jockeys and one for the clerk of scales, which is the person who weighs the jockeys.

The directory lists the number of licenses awarded in some professions. Arkansas had 8,435 licensed professional engineers in 2016; 1,709 actively licensed residential building contractors in 2017; 51,000 notary publics in 2017; and 307 professional wrestlers licensed between April 30, 2014, thru May 1, 2015.

Those licenses are awarded by 86 different state entities, including various divisions within state agencies.

Arkansas is part of an 11-state consortium that is studying occupational licens-

ing under a Department of Labor grant to the National Council of State Legislatures, the National Governors Association, and the Council of State Governments. The NCSL's Suzanne Hultin said the Labor Department awarded the grant because of the growth in occupational licensing requirements during the past 50-60 years. Other Senate members of the working group are Sens. Missy Irvin, R-Mountain Home; Jane English, R-North Little Rock; Trent Garner, R-El Dorado; and Bart Hester, R-Cave Springs. Other state representatives are Reps. LeAnne Burch, D-Monticello; Milton Nicks, D-Marion; Jeff Williams, R-Springdale; and Richard Womack, R-Arkadelphia. Other appointees are Bill Gossage, the governor's deputy chief of staff for external affairs; Dr. Charisse Childers, director of Arkansas Career Education; Leon Jones Jr., director of Arkansas Department of Labor; and consumer representatives Lula Dixon and Bob Kucheravy.

What an excellent Excellence Awards!

The Engineering Excellence Awards are always excellent, but this year's were the most excellent ever. And because this is an engineering magazine, I can prove it by the numbers.

This year's event attracted both the most attendees and, importantly, the most submissions. Engineering firms across Arkansas submitted 25 entrants, all of them excellent in their own right. **Category A: Studies**,



Angie W. Cooper Executive Director

Research and Consulting had five entrants by itself.

Few could argue with this year's Grand Conceptor Award winner. Garver's Broadway Bridge was probably Arkansas' most visible infrastructure project this year.

But the EEAs' purpose isn't really to showcase the state's "best" engineering work. Instead, its main purpose is to emphasize how all of it is so good, and these were just 25 examples.

Engineers are not the greatest self-horn-tooters. But horntooting is a critical skill in an era when you are known not just by the work you do but also by the brand you have.

So for all you who received an award of any kind: Put it in your website if you haven't already. Send a press release to the local newspaper. Stick it in your newsletter, and make sure your clients (and your legislators) see it.

And then, enter next year. Let's build on this year's success with even more entrants, so that every category has multiple entrants.

Many thanks are due those who made the night a success, starting with EEA Committee Chair Laura Nick of Garver along with the rest of the committee: Garver's Jamie White, Crafton Tull's Travis Tolley, P.E., and CEI's Steve Pawlaczyk, P.E. The event was first-class from beginning to end.

Special thanks are also due the judges: Beth Franks with the Associated General Contractors of Arkansas; Brent Stevenson with AIA Arkansas; Bill Roachell with Associated Builders and Contractors; Dustin Davis with Polk Stanley Wilcox; Ken Jones, P.E., with Bernhard TME; and Keith Jacks with Kinco Contractors. Also, thanks to our sponsors: Garver, FTN, ETEC, BXS Insurance, American and ACEC Life/Health Trust.

Most important, thank you to all of you who took the time to prepare your submissions. Let's keep tooting engineering's horn!

ASPE Conference: A lot in common

By the time you read this, the ASPE Annual Conference will be finished. However, this column is being written a couple of weeks prior, so I can't offer an after-action report.

I can tell you that a lot of work has gone into this event under the leadership of Paul Speers, P.E., this year's ASPE president, and the rest of the ASPE board.

Every year, both the EEAs and the ASPE Annual Conference bring engineers from across the state together to share common concerns and swap war stories. The thing about the engineering profession is that today's competitor can be tomorrow's client. So we have far more in common than what divides us.

As with the EEAs, thanks to all who made it possible.



Brown exploring education market

With \$225,000 grant in hand, Brown Engineers is creating a tool for students to learn about water distribution

By Steve Brawner Editor

With a \$225,000 federal grant, Brown Engineers is developing an educational tool that could teach students across the country about the water distribution process – and could open up a new market segment for the firm.

The National Science Foundation Small Business Innovation Research (SBIR) grant lets the firm explore avenues for teaching students about water and wastewater systems – particularly supervisory control and data acquisition (SCA-DA) systems.

Dr. Ben Rainwater, Ph.D., Brown Engineers' principal investigator for the project, said it has two objectives. One is to expose a wide range of students to water distribution processes. The other is to fill the pipeline for future water-related jobs, engineering and otherwise.

"Where exactly does your water come from? What is that tank over there doing? Where does it go when it leaves? What does the Arkansas River have to do with it? All of those kind of questions of where does your water come from and where does it go when you get done with it, just helping students have an appreciation for that – we think that ties into aging infrastructure, which is obviously a big deal in the engineering community and politically," he said.

Potential commercial venture

The effort would provide a valuable service to students and the water/wastewater industry. Meanwhile, it's also a commercial venture for Brown Engineers, a mechanical/electrical/automation systems firm based in Little Rock. If it succeeds, it will open up a new market segment beyond consulting engineering.

"That's what NSF wants. That's the goal is translation of something you're doing to another sector," Rainwater said.

The \$225,000 award, which went into effect Jan. 1 and lasts throughout 2018, is



a Phase I grant for exploring the market and developing a product. Rainwater will spend more than half of his time on the project this year, while other staff members will also be involved.

If successful, Brown Engineers can apply for a Phase II grant of \$750,000 to \$1 million in August 2018, February 2019 or August 2019.

"You can only request Phase II one time, so we want to make sure we've really discovered the market and see if we have something that people need and would use in a classroom environment," Rainwater said.

Using the grant, Rainwater will study how platforms such as Ignition by Inductive Automation can be integrated into schools. Brown Engineers uses that platform for control automation, alarming, data logging, and data visualization. Students could learn about that system online with their own simplified version that would let them virtually control a water plant's operation. The process would expose them to the engineering, biology and chemistry decisions that enable water to flow through the system.

The inspiration for the project came from a roundtable discussion where Little Rock School District Superintendent Mike Poore asked members of the construction industry to expose students to STEM-related career pathways in their field. "STEM" is an acronym for "science, technology, engineering, math."

An engineer and an educator

Rainwater was intrigued because of his education background. He had become familiar with SBIR grants while earning his doctorate from Georgia Tech and saw it as a good way for researchers and innovators to develop technology and move it to market.

The electrical engineer also teaches a freshman mechanical engineering class and a third-year mechanical engineering class at the University of Arkansas at Little Rock.

Rainwater had wanted to find ways to tie his education and consulting roles to-

gether, so after the meeting with Poore, he researched grant opportunities and found one that broadly asked for ideas for STEM subjects. Brown Engineers' expertise in water/wastewater distribution systems seemed like a good fit at a time when schools are focusing on other areas such as robotics. The National Academy of Engineering has made providing access to clean water one of its 14 "Grand Challenges for Engineering," and there are many jobs available in the field, including engineers, water controllers, plant controllers and lab technicians. Those jobs are also spread across the state wherever there are water and wastewater facilities.

Taking his time to get it right

Rainwater is moving slowly on the project, which is exactly what the National Science Foundation wants. The program assigns mentors to grantees throughout this customer discovery process. They'll be asking hard questions about his research, whether he's solving customers' problems, whether he's validating the market, and what kind of partnerships he's forming.

Rainwater has spoken with curriculum providers who are already serving 400,000 high school students nationwide, met with in-state curriculum developers, and attended a STEM conference at Texas A&M University. He's already formed a partnership with the EAST Initiative, an Arkansas-based program where students use technology to solve real-world problems.

"As engineers, we want to run to a solution quickly, and so when we got the funding, 'OK, let's make our solution and provide it to our customer," he said. "But through experience, the NSF has seen that some business strategy on the front end and some investigation of the market can be very important. And there can be wasted money developing a product that no one's ever going to buy or use if we do it in a vacuum. So really we haven't done much technical development at this point at the request of NSF. They requested that we hold off."

According to Rainwater, one of the NSF's mantras is, "Your idea does not survive first contact with customers." Administrators expect the grantee's ideas to change as it learns more about the market.

Failure is always a possibility, but you'll never know if you don't try. And with \$225,000 in grant money, Brown doesn't have much to lose beyond the hours Rainwater could have spent doing something else.

"Hesitantly, we want to make sure it's within the realm of possibility," he said. "It's exciting. It's fun to think about. It's fun to work on, and we're giving it all we've got to try to figure out how to make it work. You can't guarantee a startup or a new venture's going to work. All we know is to work as hard as we can, talk to as many people, try to gather as much information as possible."



April 2018 / Arkansas Professional Engineer



GRAND CONCEPTOR AWARD. Garver's Broadway Bridge design in Little Rock won the top award at the Engineering Excellence Awards. Pictured are Trinity Smith, P.E., and Scott Bennett, P.E., Arkansas Department of Transportation; John Ruddell, P.E., S.E., Garver; Rick Ellis, ArDOT; John Cantabery, P.E., Garver; John Burton, Pulaski County; and Adam Hall, P.E., Garver.

Garver's bridge a grand concept

The ACEC/A's Engineering Excellence Awards attracted a record number of entrants, with Garver's Broadway Bridge the winner of this year's Grand Conceptor Award

Garver won the Grand Conceptor Award for its Broadway Bridge replacement design at the Engineering Excellence Awards banquet March 8, while Crafton Tull won the People's Choice Award for the City of Batesville's bicycle and pedestrian master plan.

The two projects had lots of competition. This year's EEAs attracted a record number of entrants, 25, and the banquet at the Governor's Mansion had a record number of attendees. Gov. Asa Hutchinson greeted attendees as they entered the Mansion's Great Hall.

Chosen by a panel of judges that also chooses the other awards, the Grand Conceptor is the event's most prestigious award. And Garver's Broadway Bridge Replacement Project for the Arkansas Department of Transportation was cer-



PEOPLE'S CHOICE AWARD. Crafton Tull won the People's Choice Award, selected by banquet attendees, for its City of Batesville Bicycle and Pedestrian Master Plan. Pictured are Julie Luther Kelso, AICP, ASLA, and Austin Paul, Crafton Tull; Jeff Owens, Batesville parks director; Batesville Mayor Rick Elumbaugh; and Dave Roberts, ASLA, Crafton Tull.

tainly a worthy and high-profile entrant. The 1,765-foot, four-lane bridge now serves as the Little Rock region's newest skyline landmark. Garver was the prime for the project, which was one of 12 finalists in the 2017 America's Transportation Awards sponsored by the American Association of State Highway and Trans-

19





CATEGORY A: STUDIES, RESEARCH AND CONSULTING ENGINEERING SER-VICES. The winner was Garver, for its Solar Photovoltaic Feasibility Studies project for the Arkansas Military Department - Arkansas National Guard. Pictured at right is Craig Leone, P.E., Garver. Also pictured are three of the Honor Award winners in this category. Top left, Michael Baker International was recognized for its I-40 Mississippi River Bridge Inspection project for the Arkansas Department of Transportation. Pictured are Mike Stengel, P.E., Michael Baker International; Mike Hill, P.E., ArDOT; and Fred Harper, P.E., and Bob Myers, P.E., Michael Baker International. Top right photo, Garver received an Honor Award for its Rogers Water Master Plan. Pictured are Chris Buntin P.E., Garver; Brent Dobler, Rogers Water Utilities; and Scott Zotti, P.E. Garver. Bottom right, Mc-Goodwin, Williams & Yates, a division of Olsson Associates, received an Honor Award for its Water Master Plan Study for Fayetteville. Pictured are Brad Hammond, P.E., and Lane Crider, P.E.



portation Officials, the U.S. Chamber of Commerce and the AAA travel club.

Two 448-foot basket-handled tied arches form the centerpiece of the \$98.4



million project linking Little Rock and North Little Rock across the Arkansas River. The two sides of each arch incline inward, like a basket, and the two arches are tied together at the ends to prevent them from flattening out. The hangers Continued on next page



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CATEGORY B HONOR AWARD. Michael Baker International received the Honor Award for its **Parking Access Revenue Control System project** for the Bill and Hillary **Clinton National Airport.** Pictured left to right are Tom Sutton, Tom Clarke, Jim Bass, and Doug Bennett, Clinton National Airport; Matt Wallis and Mike Stengel, P.E., Michael Baker; and Rosa Reed, airport.

HONOR CATEGORY C AWARD. Michael Baker International received the Honor Award in this category for its Highway 64 Arkansas River Bridge – Pin and Hangar Rehabilitation Project for the Arkansas Department of Transportation. Pictured are Megan Land, E.I., Justin Carney, P.E., Fred Harper, P.E., and Scott Thornsberry, P.E., Michael Baker International; Steve Peyton, P.E., ArDOT; and Bob Myers, P.E., Michael Baker International.

criss-cross like a network as they stretch from the arch ribs to the tie girders. Because the existence of fixed landmarks on both sides of the river made an offset alignment difficult, the construction plan called for the bridge arches to be constructed on barges on the Arkansas River and then floated into place.

Kansas City, Missouri-based HNTB designed the arches, while Garver designed everything else.

Among the engineering challenges was accommodating navigation clear-





ances of 320 feet horizontally and 63 feet vertically, with the southern span being the one over the navigation channel. Constructors supported the new piers using drilled shafts in a waterline footing instead of the old spread footing design that would have been constructed with the aid of a temporary coffer dam. The bridge was designed to withstand barge collisions and a seismic event. The pedestrian lane is 17 feet wide, enough potentially to accommodate the Rock Region METRO streetcar in the future. The pe**CATEGORY B: BUILDING/TECHNOLOGY SYSTEMS.** The winner was Garver, for its Electrical Vaults Rehabilitation project for the Bill and Hillary Clinton National Airport. Pictured are Tom Clarke with the airport; Mike Massey, Garver; Tom Sutton, airport; and Eric Farmer, P.E., Garver.

destrian lane is approached by two ramps with six bridges.

"Overall, it's an immense project," said Garver's John Ruddell, P.E., S.E., the project manager.

Rick Ellis, Arkansas Department of Transportation Bridge Division head, called it the state's "toughest" project because of the unique geometry and angles involved.

About 24,000 vehicles daily use the bridge, which originally was constructed in 1922, and the contract called for it to be closed 180 days. The contractor, Massman Construction Company, finished the job 28 days early on March 1, 2017. That made Massman eligible for \$80,000 in bonus pay for each day opened early up to 50 days. Massman faced losing \$80,000 for every day it was late.

The only hiccup occurred in October 2016, when the demolition failed to collapse the bridge, and it had to be toppled by towboats and cables. The recorded event attracted temporary international attention but didn't result in long-term delays.

The original plan by the Arkansas Department of Transportation was to build the most economical bridge type available. Garver had designed a traditional plate girder bridge similar to the one on Main Street. Instead, Pulaski County Judge Buddy Villines wanted an iconic structure and committed \$20 million using some of the county's proceeds from the Connecting Arkansas Program, which was funded by the half-cent sales tax passed by voters in 2012.

"And so that really cut us on our schedule so we basically had about six months to get the final design done," Ruddell said.

The project also won in **Category C: Structural Systems**. Honor Awards in that category went to CEI Engineering's New Hope Trail and Bridges project for the city of Rogers, and Michael Baker International's Highway 64 Arkansas River Bridge – Pin and Hangar Rehabilitation project for the Arkansas Department of Transportation.



CATEGORY E: ENVIRONMENTAL. The winner was McClelland Consulting Engineers for its Cameron Bluff Amphitheater. Pictured are Jordan Thomas and Jeff King, Arkansas Parks; Drew Buchner, Pan American; Randy Roberson, Arkansas State Parks; and Andrew Miller, P.G., CFM, CSA, and Maneesh Krishnan, P.E., MCE.



CATEGORY F: WATER AND WASTEWATER, SMALL PROJECT. Garver won for its Adaptive Disinfection with PAA project for the Little Rock Water Reclamation Authority. Pictured from left are Garver's Paul Strickland, P.E.; and Mikel Murders, Mike Thompson, Tonya Wallace, and Howell Anderson, P.E., Little Rock Water Reclamation Authority.

People's Choice Award

The People's Choice Award, selected by attendees of the banquet, went to Crafton Tull for its City of Batesville Bicycle and Pedestrian Master Plan.

Crafton Tull helped Batesville create an important recreational, cultural and economic connection for its citizens by designing safe and accessible bicycle and pedestrian facilities. The north-south path connects the White River with a new aquatics and community center, two colleges, and sports fields north of the city. With complete street policies, widened roads to allow for bicycle lanes, and improved pedestrian accessibility along major corridors, the trail network provides the city with alternative transportation options.

The project also was the category winner in Category I: Special Projects, Small Project.

Other category award winners

Other category winners at this year's banquet were as follows.

Category A: Studies, Research and Consulting Engineering Services. The winner was Garver, for its Solar Photovoltaic Feasibility Studies project for the Arkansas Military Department – Arkansas National Guard. Garver's studies centered on the installation of solar panels for containment areas in Fort Smith and North Little Rock with the goal of reducing the department's reliance on pur-*Continued on next page*

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CATEGORY F: WATER AND WASTEWATER PROJECT. Garver, left, received an Honor Award for its Bayou Ridge Water Storage Tank project for the Russellville Water & Sewer System. Pictured are Paul Strickland, P.E., Garver; Lance Bartlett, P.E., LEED AP, Steve Mallett, P.E., Megan Jones, and Larry Collins, Russellville City Corporation; and Daniel Hollinger, P.E., Garver. CWB Engineers, right, also received an Honor Award in this category for its Basins 7 and 14 Wastewater Improvements project for the Russellville Water & Sewer System. Pictured are Oren Noble, P.E., and Clint Bell, P.E., CWB Engineers; Bartlett, Mallett and Jones with the Russellville City Corporation; Kyle Breckenridge, P.E., CWB Engineers; and Collins.



CATEGORY F: WATER AND WASTEWATER, LARGE PROJECT. The winner was McClelland Consulting Engineers, for its Huntsville Biosolids Dryer project for the Huntsville Water Department. Pictured are Larry Garrett, Huntsville; Earl Carter, MCE; and Bill Eoff, Huntsville.

CATEGORY G: WA-TER RESOURCES.

The winner was PMI, for its Recirculating Media Treatment project for Riviera Utilities. Pictured are Brad Wingfield, P.E., PMI; and Jack Plumlee and Leny Baker, Riviera Utilities.



chased energy. Following these studies, the Arkansas Military Department began developing designs for two projects once thought to be too costly. The solar panels at each site are expected to provide \$121,000 in annual savings.

Four entrants received Honor Awards in the category: Brown Engineers, for its Central Arkansas Water SCADA HMI project for Central Arkansas Water; Garver, for its Rogers Water Master Plan for Rogers Water Utilities; McGoodwin, Williams & Yates, a division of Olsson Associates, for its Water Master Plan Study for the city of Fayetteville; and Michael Baker International, for its I-40 Mississippi River Bridge Inspection project for the Arkansas Department of Transportation.

Category B: Building/Technology Systems. The winner was Garver, for its Electrical Vaults Rehabilitation project for the Bill and Hillary Clinton National Airport. The airport was left without proper lighting when faulty wiring caused a fire in its West Vault Building. To prevent similar situations, Garver's design included a new automatic transfer switch that synchronizes power transfers, dual purpose docking stations for the emergency power distribution system, fire detection and suppression systems, networked fire alarm panels, closed-circuit television cameras, and fiber optic network infrastructure to help minimize future power interruptions to the lighting system.

Michael Baker International received the Honor Award for its Parking Access Revenue Control System for the Bill and Hillary Clinton National Airport.

Category E: Environmental. The winner was McClelland Consulting Engineers for its Cameron Bluff Amphitheater



CATEGORY H: TRANSPORTATION, SMALL PROJECT. The winner was PMI, for its Cossatot River Bridge Improvements project for the Arkansas Department of Parks and Tourism. Pictured are Jordan Thomas, Jeff King and Randy Roberson, Arkansas State Parks; and John Metrailer, P.E., and Brad Wingfield, P.E., PMI.



CATEGORY H: TRANSPORTATION, LARGE PROJECT. The winner was Garver, for its Highway 286 Widening and Interchange project for the Arkansas Department of Transportation. Pictured are Shaun Roberson, P.E., Garver; Trinity Smith, P.E., ArDOT; John Cantabery, P.E., Garver; Dustin Tackett, P.E., Garver; and Finley Vinson, City of Conway.

for Arkansas State Parks. An abandoned amphitheater at Mount Magazine State Park was returned to its previous form. The original 1930s construction did not include drainage, leading to rainwater seeping into the stone seats and causing premature buckling. To combat this, MCE's design incorporated angled seats so that water could drain down and away. Original stone was recycled, the rock was patterned off of original designs, and sandstone was chosen to mimic original materials.

Category F: Water and Wastewater, Small Project. The winner was Garver, for its Adaptive Disinfection with PAA project for the Little Rock Water Reclamation Authority. The disinfection performance at Little Rock's largest secondary treatment facility had been affected by increasing flow rates and decreasing ultraviolet transmittance in the secondary effluent. To reach adequate disinfection, Garver implemented a four-week pilot test, then a full-scale trial to assess the benefits of sequential disinfection with peracetic acid (PAA) followed by ultraviolet light. Data collected highlights the critical role that peracetic acid can play in meeting effluent fecal coliform limits when effluent ultraviolet transmittance is impaired.

Category F: Water and Wastewater, Large Project. The winner was Mc-Clelland Consulting Engineers, for its Huntsville Biosolids Dryer project for the Huntsville Water Department. By turning municipal waste into Class A biosolids, this project helps negate the need for incineration or disposal at local landfills, which come with increasing hauling costs. The Huntsville Biosolids Dryer, the first of its kind in Arkansas, does not require chemicals such as lime for sewage conversion, which helps the condition of the plant. The waste can then be recycled and sold to area farmers to be used as rich fertilizer.

Two entrants received Honor Awards in the category: CWB Engineers, Inc., for its Basins 7 and 14 Wastewater Improvements project for the Russellville Water & Sewer System; and Garver, for its Bayou Ridge Water Storage Tank project for the Russellville Water & Sewer System.

Category G: Water Resources: PMI, for its Recirculating Media Treatment project for Riviera Utilities. PMI applied an underutilized treatment process to assist Riviera Utilities in solving ongoing problems with its treatment plant to realize several economic and environmental benefits. An operations building to house new chemical feed equipment for alkalin-*Continued on next page*



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CATEGORY H HON-OR AWARD. Craf-Tull received ton an Honor Award in this category for the its I-49 Widening: Highway 264 to New Hope Road Project for the Arkansas Department of Transportation. Pictured are Michael Fugett, P.E., and Trinity Smith, P.E., ArDOT, and Mike Burns, P.E., Crafton Tull.



CATEGORY I, SPECIAL PROJECTS, LARGE PROJECT. The winner was McClelland Consulting Engineers for the Benton Riverside Park Project for the city of Benton. Pictured are Byron Hicks, P.E., MCE; Daniel Baxley, Benton Parks; Benton Alderman Kerry Murphy; and Maneesh Krishnan, P.E., and Adam Osweiler, P.E., MCE.

Category H: Transportation, Small Project. The winner was PMI, for its Cossatot River Bridge Improvements project for the Arkansas Department of Parks and Tourism. A trail has been reconnected, paddling access points have been restored, and access to popular amenities have been reopened thanks to this bridge replacement. The Ed Banks Crossing lowwater bridge had become impassable and a safety hazard due to high-water flows. A new crossing was designed and replacement was recommended during low-flow conditions to reduce the turbidity to the scenic waterway. Visitor traffic has been restored, and since its opening, high-river flows have not hindered the bridge.

Category H: Transportation, Large Project. The winner was Garver, for its Highway 286 Widening and Interchange Project for the Arkansas Department of Transportation. To help alleviate congestion near a recently opened shopping center in Conway, Garver created what is believed to be the country's first back-toback triple lane roundabouts. By allowing traffic to flow smoothly through a onemile stretch of highway, the designs significantly improved the operational performance and safety of the interchange. The highway was widened, one ramp and one side road were realigned, and pedes-



CATEGORY J: ENERGY, SMALL PROJECT. The winner was Brown Engineers, for its Statehouse LED Lighting Retrofit Project for the Little Rock Convention & Visitors Bureau. Pictured are Scott Geurin, P.E., Brown Engineers; Gretchen Hall, James "Doc" Doo-little, and Jim Rice, LRCVB; and Mark Eakin, P.E. Brown Engineers.

ity and disinfection was also constructed. PMI provided design, permitting, bidding, and construction administration on this project that will prove to be a case study for future treatment plants seeking to curb costs.



QBS AWARD. The Arkansas Department of Transportation received this new award, which recognizes public organizations, private entities, and individuals that make exemplary use of the QBS selection process. Pictured are ArDOT Director Scott Bennett, P.E., left, and Mike Burns, P.E., Crafton Tull, ACEC president.



CATEGORY J: ENERGY, LARGE PROJECT. Garver won for its Springdale Water Utilities Wastewater Treatment Facility Generator Improvements project. Pictured are Garver's Chris Buntin, P.E.; Heath Ward and Rick Pulvirenti, P.E., Springdale Water Utilities; Scott Zotti, P.E., Garver; Shawn Dorman, Springdale Water Utilities; and Jonathan White, P.E., Garver.

trian accommodations were provided to help improve mobility in one of the state's fastest-growing cities.

Crafton Tull received an Honor Award in this category for its I-49 Widening: Highway 264 to New Hope Road project for the Arkansas Department of Transportation.

Category I, Special Projects, Large Project. The winner was McClelland Consulting Engineers, for the Benton Riverside Park for the city of Benton. A recreation complex with athletic fields, a recreation center, natatorium, and senior wellness center has boosted the quality of life for Benton residents. McClelland Consulting Engineers provided civil engineering services for the project, which provides outlets for basketball, soccer, softball, swimming, and volleyball. With a quarter of the city's drainage running through the park, MCE avoided issues with an extensive HEC-RAS analysis, and an access road that includes a roundabout that connects it to a nearby interstate.

Two entrants received Honor Awards in this category: B&F Engineering, for its Campus Site and Stadium Improvements project for the Lakeside School District; and CEI Engineering, for the J.B. Hunt Corporate Campus, Tower 3 project for J.B. Hunt Transport Services, Inc.

Category J: Energy, Small Project. The winner was Brown Engineers, for its Statehouse LED Lighting Retrofit project for the Little Rock Convention & Visitors Bureau. Less energy is required to cool, heat, and illuminate the Statehouse Convention Center after these key lighting improvements. The new LED lighting system replaced hundreds of 1,000-watt high-bay metal halides that ran continuously – 450 fixtures were replaced in the center's four halls – and new wireless lighting controls make it so schedules can be set when the lights are on or dimmed depending on usage. The project reduced annual energy consumption by 1.2 million kilowatts.

Category J: Energy, Large Project. The winner was Garver, for the Springdale Water Utilities Wastewater Treatment Facility Generator Improvements project for Springdale Water Utilities. The facility was at risk of discharging raw sewage into a local watershed after an ice storm left it without the ability to treat incoming wastewater. Following a feasibility study, the design included two 1.5-megawatt generators and associated switchgear, which operates in parallel with the utility service to provide seamless transition between utility and generator power. The project helped the facility reduce costs and maintain full treatment capacity at all times.

Continued on page 27

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COLUMN 1

First ACEC QBS Award

This year's event included a new award, the QBS Award, which ACEC added to recognize public organizations, private entities, and individuals that make exemplary use of the QBS selection process. The QBS Award winner provides examples of how well the QBS process works, and helps ACEC promote the practice of QBS for the selection of engineering services.

This year's winner was the Arkansas Department of Transportation. ArDOT provides online selection criteria so that everyone submitting knows how the selection will be determined. Its consultant selection procedures, which apply to federally and state-funded contracts for engineering and design services, were updated, and are issued to ensure a qualified consultant is obtained through an equitable QBS process.

The EEAs were sponsored by Environmental Technical Sales; ACEC Health Trust; American; FTN Associates, which sponsored the table centerpieces; and BXS Insurance, formerly BancorpSouth, which sponsored the People's Choice Award. Garver's communications team provided in-kind marketing support throughout the year to promote this event.

Arkansas' five members of the prestigious ACEC College of Fellows also were recognized at the banquet. They are Bert Parker, P.E., Garver; Rick Geraci, P.E., Brown Engineers; Dennis Ford, P.E., FTN Associates; Carl Yates, P.E., McGoodwin, Williams and Yates, a division of Olsson Associates; and the late Brock Johnson, P.E., Garver.

The EEA Committee Chair was Laura Nick of Garver. Other committee members were Garver's Jamie White, Crafton Tull's Travis Tolley, P.E., and CEI's Steve Pawlaczyk, P.E.

This year's judges were Beth Franks with the Associated General Contractors of Arkansas; Brent Stevenson with AIA Arkansas; Bill Roachell with Associated Builders and Contractors; Dustin Davis with Polk Stanley Wilcox; Ken Jones, P.E., with Bernhard TME; and Keith Jacks with Kinco Contractors.

Education News

Two UA graduate programs ranked by U.S. News

Two University of Arkansas College of Engineering programs were ranked in the top 50 in the 2019 edition of U.S. News & World Report Best Graduate Schools issue.

The magazine ranked the biological and agricultural engineering program 18th among public institutions and 19th overall. The industrial engineering program was ranked 27th among public institutions and 34th overall.

"Our graduate students are at the heart of our research mission," said John English, P.E., dean of the College of Engineering, on the UA's website. "They come to us from across the country and around the world, bringing critical new perspectives that drive our research forward. I'm glad to see the hard work of our faculty, staff and students reflected by these rankings that put our programs among the best in the nation."

More than 600 at UA select their engineering field

More than 600 first-year University of Arkansas engineering students recently



Courtesy University of Arkansas College of Engineering

chose which field of engineering they'll pursue during the university's Decision Day, according to the UA's website.

The event occurs after the students have completed their general engineering coursework and choose from one of the College of Engineering's eight courses of study. Members of each department cheer each student as they approach the microphone with their announcement. The traditions began 10 years ago.

"That's the best part of Decision Day – seeing the students celebrate their decision and interact with their new advisers and new peer group for the first time," said Richard Cassady, director of the Freshman Engineering Program.

On that day, 642 students chose a major, with the highest number, 136, choosing mechanical engineering. Computer Science was second as the selection of 107 students.

- The others were as follows:
- Biomedical: 79
- Chemical: 64
- Electrical: 63
- Industrial: 62
- Civil: 50
- Biological: 45
- Computer Engineering: 36



The Legislative Engineer

U.S. Rep. Bruce Westerman discloses the advantages of bringing an engineering background to Congress

Editor's Note: The article originally appeared in Engineering Inc. It is being reprinted with permission of the American Council of Engineering Companies and Engineering Inc.

ongressman Bruce Westerman is currently serving his second term as an Arkansas representative, having first been elected in 2014. He is a member of the House Budget Committee, the Transportation and Infrastructure Committee and the Committee on Natural Resources. He also is one of the few members of Congress who are licensed professional engineers. He was named Engineer of the Year in 2013 by the Arkansas Society of Professional Engineers.

In this exclusive interview with *Engineering Inc.*, Westerman discusses the prospects of an infrastructure bill, the economic implications of the new tax law and why his engineering background serves him well as a congressman.

ACEC: How has your training and experience as a professional engineer affected your role as a legislator?

Westerman: "Engineering is a great background to have to serve in Congress because engineers are taught how to solve problems, be very analytical and take some of the emotion out of the decision and concentrate on the facts. That's where my engineering training has been invaluable for me while serving in Congress."

ACEC: Do you think having more engineers in Congress can make a difference on legislation such as transportation and energy?

Westerman: "It should be a plus. One thing I've noticed about Congress is that if you have expertise on an issue that comes up, you generally get an opportunity to weigh in on that issue because your colleagues respect your expertise. We've had some issues in the past, and



the fact my colleagues knew I had an engineering background added a little more weight to my perspective.

"I believe we need more engineers in elected office across the board. I talk to a lot of engineering groups and to engineering students, and I always encourage them to get involved in politics, whether they are going to run for office or not. The fact is the laws and rules propagated by those in elected office can have a lot of impact on engineering careers and what happens with the economy. It's just important that engineers become more in-

"I have yet to meet anybody in Congress, or anybody in the administration, who doesn't want to see an infrastructure bill." - Rep. Bruce Westerman

volved. I don't know the exact number of engineers currently in Congress, but I do know there are two engineers who were just elected by special elections – Ron Estes, R-Kansas, and Greg Gianforte, R-Montana."

ACEC: What is the stretch from being trained as an engineer to going into public policy?

Westerman: "For me it was simply taking the opportunity to get involved. The first office I ever ran for was the local school board. My engineering background worked well for me there because they were looking at a construction project and had to deal with a lot of things that come naturally to engineers – managing projects, understanding how projects flow – things that were second nature to me but a void to the rest of the board as well as the administration. I had no ambitions of serving in Congress when I ran for the school board, but from there I went to the state legislature and then to Congress."

ACEC: Do you have suggestions for engineers who are interested in getting more involved in politics, policy and legislation?

Westerman: "Whether it's a volunteer position such as serving on a school board, city council, county government or one of the volunteer organizations, there are always places engineers can get involved. I believe that anywhere an engineer chooses to become involved, they will find that their background and expertise are needed. Our church was hit by a tornado and since I'm a deacon of the church, and an engineer, they made me chairman of the rebuilding project.

"As engineers we have things we can share that will benefit other people, although that's not something we always realize. But it takes being active and getting involved, something engineers should do more.

"One thing my office has done on getting more engineers interested in public policy has been to start an engineering internship program. We're doing that with the Association of Engineering Deans. John English, dean of the University of Arkansas College of Engineering, created a program to provide scholarships for students to come to Capitol Hill in the summer to intern in my office as well as with the House Transportation and Infrastructure Committee. North Carolina State has a similar program. It would be great to see those kinds of programs expanded."

ACEC: What is your prognosis for whether we're going to get an infrastructure bill, and what do you think Continued on next page



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ENGINEERING POLITICAL SOLUTIONS. Rep. Bruce Westerman, left, discusses industry priorities with ACEC President/CEO Dave Raymond, center, and ACEC Chairman Sergio "Satch" Pecori.

some of the dimensions of that bill might be?

Westerman: "I have yet to meet anybody in Congress, or anybody in the administration, who doesn't want to see an infrastructure bill. People recognize the need for infrastructure. It's not something that's politically motivated. You can see the deterioration of the roads, inland waterways and airports. There's a huge demand for rural broadband, which particularly affects my district.

"We know the infrastructure needs are there; the problem is, how do you fund it? I know it's one of the top priorities of the administration. We've already talked about it in the House Republican Conference. The big priority starting off 2018 is what we do with the infrastructure package. As a member of the House Transportation and Infrastructure Committee, I hope to bring some new ideas on how we fund infrastructure.

"There's talk about public-private partnerships, and that works great in urban areas with a lot of use demand. But in rural areas, such as my district, you probably won't get too many public-private partnerships. We have an infrastructure funding formula that's not relevant anymore, and when it was first put in place, there were things you could not foresee in the future, such as increased miles per gallon on vehicles and electric vehicles. We have a lot of vehicles on the road that are paying zero to use that infrastructure.

"While we generally think of infrastructure as roads, we must also consider our inland waterways, which are important in transporting so much of the nation's freight. An example is the Mc-Clellan-Kerr Arkansas River Navigation System in my district, which is in major need of repair. A tremendous amount of freight depends on that system, and while it may often be out of sight and out of mind, just let one of those gates on the lock and dam fail. You'll see an immediate influx of tractor-trailer rigs out on the interstate, putting more people's safety at risk and adding to the wear and tear of the infrastructure. Everybody in our country depends on our infrastructure system."

ACEC: Do you think Congress will take up a single infrastructure bill that covers a variety of infrastructure needs such as water, transportation and communications, or do you think it will be more segmented? Also, will the Water Resources Development Act (WRDA) be included?

Westerman: "As it stands now, the goal is for a broad infrastructure plan.

Whether WRDA will be included is still being decided. There are so many negotiations that have yet to take place. Most importantly, we need to figure out how to pay for it. I think high-speed broadband will also be in the plan, plus a lot of innovative ways to fund infrastructure. The key comes back to how much can we afford."

ACEC: As you know, Congress in late December cleared the first major tax reform bill in over 30 years. From your perspective, how will the new tax law help the economy and job growth going forward?

Westerman: "I think we're already seeing an impact from the new tax law. We're seeing millions of employees getting bonuses from their employers as a result of the tax bill. We're seeing companies talk about billions of dollars of investment, and I believe that's only going to grow. The problem I see is that the economy will be growing so well that we'll need to do a better job of training people to fill any new jobs. We have 24 million ablebodied, working-age adults sitting on the sideline right now. We need to use federal policy to motivate them even more to enter the job market. Having good jobs and a demand for labor is a key part of sustaining that economic growth."









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