

# Building Arkansas

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

## Grand Concept-air

Garver's Adam White, P.E., left, was the senior project manager for this year's Grand Conceptor Award winner at the ACEC/A's Engineering Excellence Awards banquet. White and his team designed a \$15 million total reconstruction of much the Northwest Arkansas National Airport's taxiway. By tailoring the project to the airport's needs and by recycling concrete, Garver saved millions of dollars while helping keep the airport in operation. At right is Nick Fondano, the airport's director of construction.



# A little normalcy returns, for now

After a year-and-a-half of isolation and Zoom meetings, it was great to see each other – in person rather than via pixels – at the Engineering Excellence Awards banquet at the Governor’s Mansion Aug. 26.

The ACEC/A’s annual showcase event had to be cancelled last year because – well, you know why. This year’s event was a makeup. Congratulations to Garver for winning the Grand Conceptor Award, Michael Baker International for winning the People’s Choice Award, and to all the other award winners.

This was the first time this many engineers from that many firms had gotten together since the pandemic began. It was not a risk-free environment, but engineers operate in a world of risk, and they are good at assessing it and mitigating it. ACEC/A followed the Governor’s Mansion’s protocol and provided hand sanitizer and masks. Those who felt safe



**Angie W. Cooper**  
Executive Director

came. Those who felt it was not yet time to attend such an event stayed home.

With vaccines widely available to those who want them and with the case-load numbers decreasing, we’re going to continue getting back to normal, for now. The Emerging Leaders will be meeting in person this year after meeting remotely last time. The year-long class provides leadership training to young design

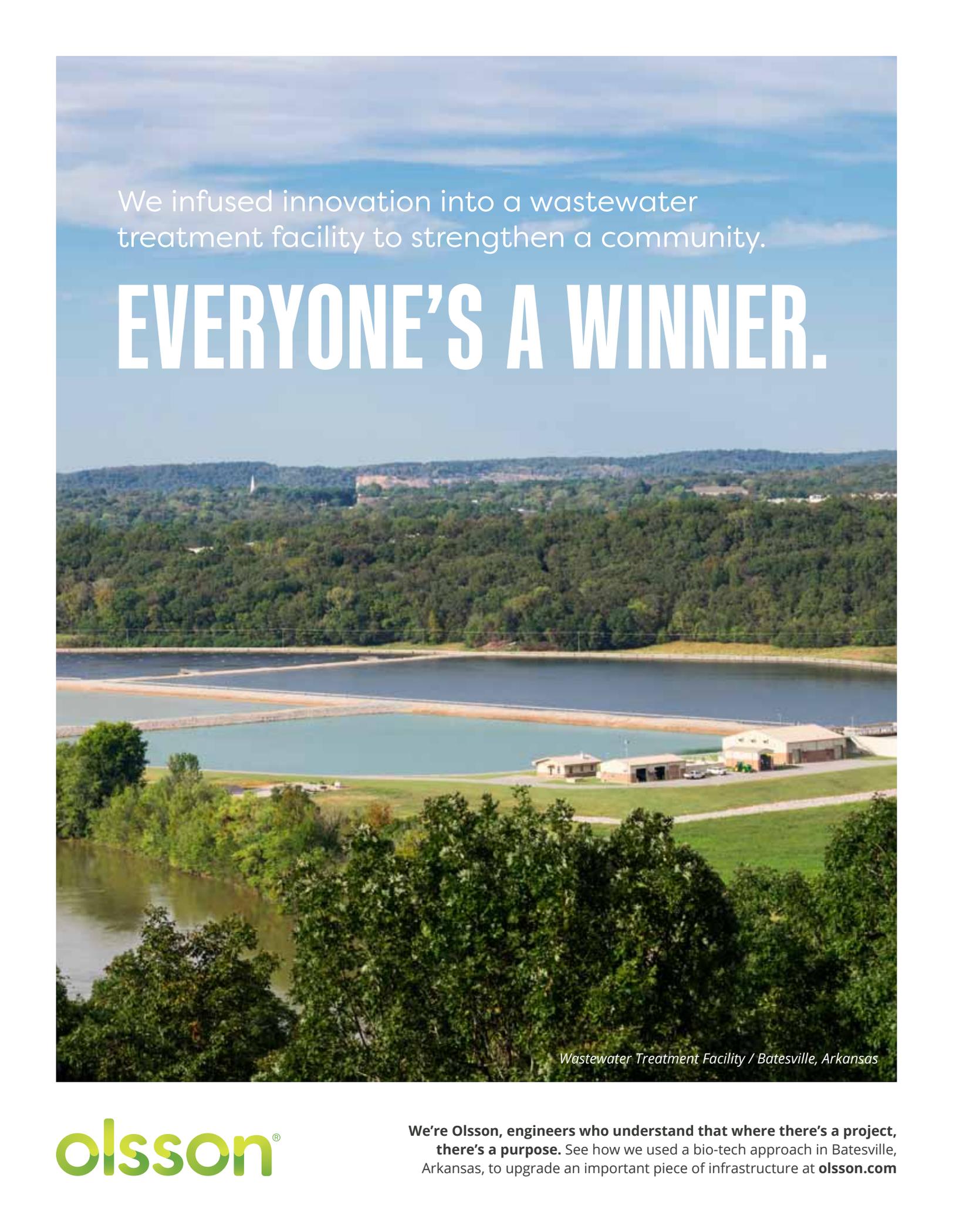
professionals. ACEC/A’s past president, Burns & McDonnell’s Steven Beam, P.E., is a graduate. Our annual Industry Update is being planned for November. This is one of our best events of the year because it gives engineers a chance to hear directly from policymakers, and vice versa. The annual address by Dr. Michael Pakko, the state’s economic forecaster, is hugely informative and worth the price of admission. Plus, we feed you.

Engineers do things by the numbers. They respond rather than react. If the caseloads and hospitalizations spike, we’ll reassess. We can always go back to Zoom meetings, or we can try another way. We know that once the pandemic ends, COVID will be endemic – in other words, always with us.

For now, we’re moving ahead. The 2022 EEAs are scheduled for March 10, 2022, at the Governor’s Mansion. See you there!

 A photograph of a white electric car plugged into a charging station at night. The scene is illuminated by the station's lights and the car's headlights.
 

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**14** Garver's Adam White, P.E., left, led the project that won the Grand Conceptor Award at the ACEC/A's Engineering Excellence Awards Aug. 26. White designed a \$15 million total reconstruction of much the Northwest Arkansas National Airport's taxiway. Pictured with him is Nick Fondano, the airport's director of construction.

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## News and Features

### 14 **Cover / Grand Concept-air**

Difficult tasks are sometimes compared to "building a plane while flying it." This year's Grand Conceptor Award winners had it a little easier, but not much: They rebuilt a major part of an airport while planes were flying into and out of it.

Garver's Taxiway B Reconstruction for the Northwest Arkansas National Airport won this year's top award at the ACEC/A's Engineering Excellence Awards, held Aug. 26 at the Governor's Mansion. Last year's event was cancelled because of the COVID-19 pandemic.

### 22 **Spotlight / Geotechnology sets firm foundations**

A firm foundation is the key to any construction project, and Geotechnology can help ensure each project has one.

The St. Louis-based company specializes in applied earth and environmental sciences, geotechnical engineering, construction materials testing, geophysics and drilling, and other areas.



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EXCELLENCE AWARDS  
**CATEGORY WINNERS**

# RAILYARD BIKE PARK RENOVATIONS

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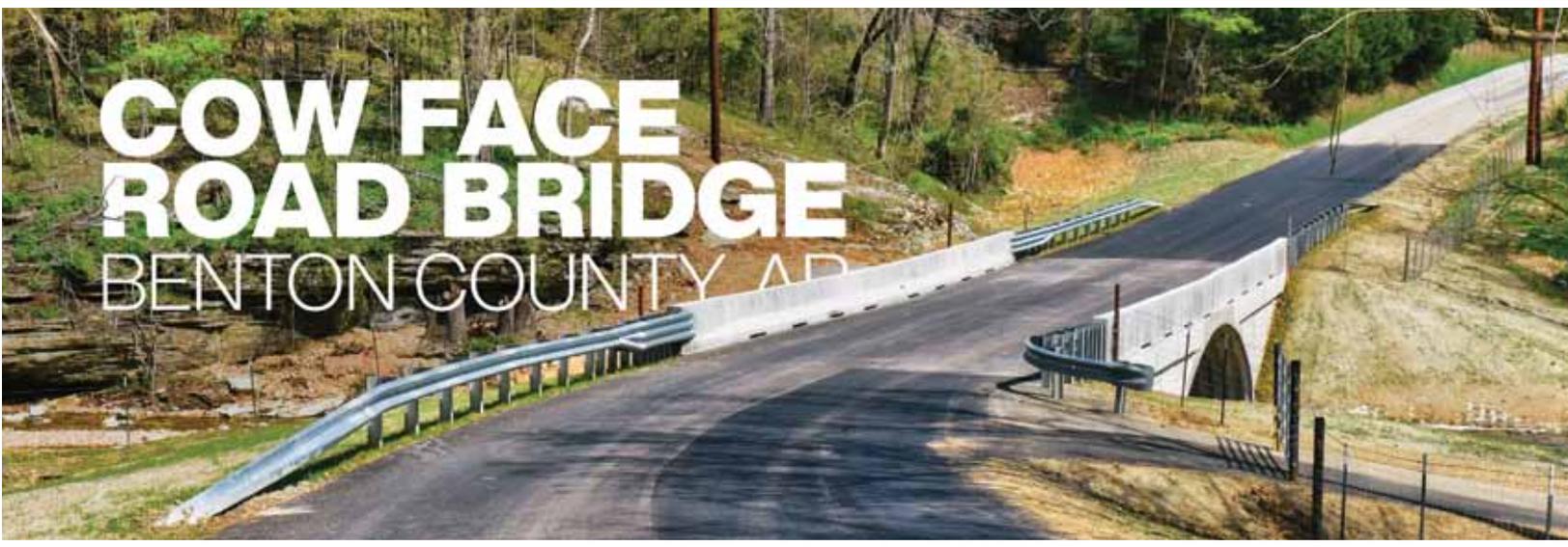
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# Calling all engineers

To start our planning retreat in August, I opened the meeting with an ice breaker. I had two questions for all our ACEC/Arkansas board members: What got you into engineering, and what would you be doing if you couldn't be an engineer? As I listened to each board member's story, I noticed a pattern in the answers – each member is involved in an arm of the civil engineering field.

Now, I've thought about this before. Does ACEC only represent civil engineering firms? This is my sixth year on the ACEC/A board, and we've had two non-civil engineering members in my tenure. Dee Brown, P.E., an electrical engineer with Brown Engineers, was the immediate past president my first year on the board, and James Montgomery, P.S., a surveyor with B & F Engineering, was the treasurer. Both men have now rotated off the board. When I asked the current board members why they thought we had such a heavy civil engineering presence, no one had a real solid answer for this phenomenon. One thought was that there weren't that many MEP firms in the state.

Let's be clear here: ACEC/Arkansas represents the entire consulting engineering community in Arkansas. As president of ACEC/Arkansas, one of my top goals is to increase membership in our organization. Not only do I want to see our overall membership grow, but I also want to see an increase in firms that aren't necessarily



**Steve Pawlaczyk, P.E.**  
ACEC/A President

focused on civil engineering. Don't get me wrong; I would love to see more civil firms join our organization, but we need to get the word out to our electrical and mechanical engineering friends.

That's where you can help us make an impact. If you're reading this article and know of a firm

that could benefit from ACEC/Arkansas membership, reach out to me, any of our board members, or our executive director, Angie Cooper. We'll find the right person to connect with that firm and educate them on the benefits of becoming a member firm. Plus, we're always looking for individuals willing to serve on our committees.

For those wondering about the responses to the second ice breaker question, there were some interesting answers. For me, I mentioned wanting to be a professional golfer. Not that I'm anywhere near ready for the PGA Tour, but I posed this question to be more along the lines of what you would do if you could be anything – no restrictions.

I don't want to divulge anyone else's personal responses. If you want to learn what the other board members had to say, you can ask them directly. All board members are listed with email contacts at <https://arkansasengineers.com/home/volunteer-leadership/>. We'd love to hear from you, and, as a board, we are here to serve you!

# ACEC

American Council of Engineering  
Companies of Arkansas  
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## President

Steve Pawlaczyk, P.E.  
CEI Engineering Associates, Inc.  
3108 SW Regency Parkway, Suite 2  
Bentonville, AR 72712  
800.433.4173

## President-elect

Jerry Holder, P.E.  
Garver  
4701 Northshore Drive  
North Little Rock, AR 72118  
501.376.3633

## Secretary

Paul Crawford, P.E., P.G.  
FTN Associates  
3 Inwood Circle, Suite 220  
Little Rock, AR 72211  
501.225.7779

## Treasurer

Jerry Kelso, P.E.  
Crafton Tull  
10825 Financial Centre Parkway #300  
Little Rock, AR 72411  
501.664.3245

## State Director

Mike Foster, P.E.  
Pickering  
317 South Church Street  
Jonesboro, AR 72401  
870.336.0117

## State Director

Lawren Wilcox, P.E.  
Garver  
4701 Northshore Drive  
North Little Rock, AR 72118  
501.376.3633

## State Director

Andy Davis, P.E.  
Jack Tyler Engineering  
6112 Patterson Rd.  
Little Rock, AR 72209  
501.562.2296

## National Director

Matt Crafton, P.E.  
Crafton Tull  
901 N. 47th St., Suite 400  
Rogers, AR 72756  
479.636.4838

## Immediate Past President

Steven Beam, P.E.  
Burns & McDonnell  
6815 Isaac's Orchard Road, Suite B3  
Springdale, AR 72762  
479.725.5460

## Executive Director, ACEC/A & ASPE

Angie W. Cooper  
ASPE and ACEC/A  
P.O. Box 24902  
Little Rock, AR 72221



**Arkansas Society of  
Professional Engineers  
Officers 2021-22**

**President**

Travis Tolley, P.E.  
Crafton Tull  
10825 Financial Centre Parkway #300  
Little Rock, AR 72211  
501.664.3245

**President-elect**

Kale Farmer, P.E., CFM  
FTN Associates  
124 W. Sunbridge Drive, Suite 3  
Fayetteville, AR 72703  
479.387.0848

**Secretary-Treasurer**

Tyler Avery, P.E.  
Mid-South Engineering  
1658 Malvern Avenue  
Hot Springs, AR 71901  
501.321.2276

**State Director**

Mary Fair, P.E.  
Garver  
4701 Northshore Drive  
North Little Rock, AR 72118  
501.376.3633

**National Delegate**

Brad Peterson, P.E., CFM, LEED AP  
Crafton Tull  
10825 Financial Centre Pkwy, Suite 300  
Little Rock, AR 72211  
501.664.3245

**Past President**

Daniel George, P.E.  
B&F Engineering  
928 Airport Road  
Hot Springs, AR 71913-4618  
501.767.2366

**Building Arkansas**

**Editor & Publisher**

Steve Brawner  
Steve Brawner Communications  
501.794.2012  
brawnersteve@mac.com

**Executive Editor**

Angie Cooper  
awcooper@arkansasengineers.org  
ACEC/A - ASPE  
P.O. Box 24902  
Little Rock, AR 72221  
Office 501.912.4099  
arkansasengineers.org

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# Let's inspire a new generation of engineers

A lot can happen in 16 years. It seems like just yesterday I attended my first ASPE meeting. I didn't necessarily set out to join a professional society. I did so simply because I was invited – and, of course, because my boss was the one who invited me as a young engineer who had just started a career with Crafton Tull.



**Travis Tolley, P.E.**  
**ASPE President**

That's all it took for me to get involved. I've served in leadership in the Central Arkansas chapter and now I am proud to serve as the president of the Arkansas Society of Professional Engineers.

As I step into the role of president, I couldn't be more proud to represent a talented group of individuals who are building not only Arkansas, but also the nation. As we emerge from the COVID-19 pandemic that brought gatherings to a near halt, I see this year as an opportunity to go back to the basics and focus on the young engineers who simply need a little bit of encouragement to join the organization.

There's a great opportunity before us as COVID has left us all Zoom-fatigued and searching for normalcy. I get excited any time I see a chance to attend an event and start to feel as if "the good ol' days" are starting to come back.

Such a large part of our organization is the networking and fellowship that comes with chapter meetings. As we begin to build a new version of normal, I want to be a resource of support for local chapters who are looking to get back to the fundamentals of our organization and refocus on networking and fellowship.

In the past few years, aside from the pandemic, ASPE has been somewhat inwardly focused on maintaining the membership and providing current members with the great experience of being a part of the organization. I don't want to see that change, but I do feel that there's room for our organization to look to be more outwardly focused as we enter this new era

post-COVID. We can seize this opportunity to inspire a new generation of engineers.

I don't have a new initiative to champion during my term as president. Instead, nothing would make me happier than to simply see chapters gathering again. And with gathering comes the networking and fellow-

ship that inspired me as a young engineer to grow in not only the organization, but also the profession.

That's what it is all about, right? As an organization, we would be hurting ourselves to not reach out to the younger generation of engineers and offer them the same welcome that was extended to me.

I would also like to see our local chapters put an emphasis on students. I love to see students excited about engineering, and like I said, we can be a resource for the future generation of engineers – and we should be. Let's look for opportunities to team with local high schools to encourage students to pursue a career in the profession of engineering. We can speak to career orientation classes, support robotics teams, and take advantage of every chance to put engineering as a profession at the forefront of young minds.

Outreach isn't the only way we can have an influence on the future of the engineering profession. Our organization also does an exceptional job of advocacy at the state level. Engineers have managed to stay out of the crosshairs of any major changes to licensure procedures in the Arkansas Legislature. That has been a direct result of our organization's lobbying efforts.

Engineering is a profession that is about protecting the safety and welfare of the public. We want to make sure that those who are in the profession are qualified to practice engineering. We also want to make sure that the younger generation of engineers can find a home with ASPE just like I did.

## In the News

# Michael Baker opens office in Bentonville; moves in LR



Stengel



Miller

Michael Baker International has opened a new office in Bentonville and has relocated its Little Rock office.

The engineering firm has maintained an Arkansas office in Little Rock since 2002, and also currently operates a construction project office in Jonesboro. The new Bentonville location in Northwest Arkansas will provide opportunities for continued growth in the state in support of the firm's current and future clients.

Mike Stengel, P.E., has returned to Arkansas to serve as the office executive for the Bentonville office. He previously was office executive for Michael Baker's Little Rock office and more recently served in that position at the Dallas office.

Landon Miller, P.E., a roadway project manager in Michael Baker's Little Rock office, has been promoted to serve as the lead roadway engineer in the new Bentonville office.



Michael Baker's new Little Rock office is near the River Market area.

Meanwhile, after years of growth and numerous expansions at its Little Rock office in Union Station, Michael Baker recently moved into a new office near the River Market area. The new office, located at

101 S. Spring Street, Suite 100, provides a significant increase in capacity to support the transportation team's continued growth, while staying in close proximity to key clients and city/state agencies, many of which are similarly located in or near downtown Little Rock.

*In the News continues on page 10*

## Bridge inspector



At the Hernando de Soto Bridge connecting Memphis and West Memphis, a Michael Baker International bridge inspector collected measurements while the unmanned aerial systems (UAS) team collected video imagery. The above photo was taken by Michael Baker May 13, two days after the bridge was closed. Michael Baker inspectors discovered the fracture and then used UAS to rapidly scan the rest of the structure. Eastbound lanes reopened July 31, and westbound lanes reopened Aug. 2.

## Bridge pro joins Michael Baker's Little Rock office



Beatty

James Beatty, P.E., has joined Michael Baker International as a senior engineer in bridge for the Little Rock office.

Beatty has more than 44 years of experience in design of structures/bridges primarily in Arkansas with other projects in Tennessee, Mississippi, Texas, Oklahoma, New Mexico, and Missouri using AISC, ACI,

*In the News continues on page 10*

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Tel: 901.322.8082  
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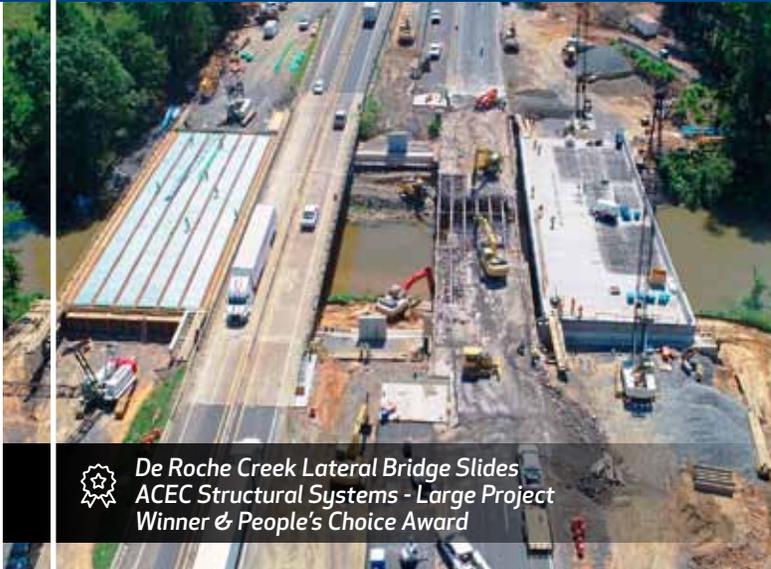
**ARKANSAS**  
900 S. Shackelford, Suite 300  
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## In the News (Cont'd)

AASHTO and international building codes.

He spent 17 years in the Bridge Design Division of ARDOT early in his engineering career, rising to senior bridge engineer.

His bridge experience includes layout and design of simple span and multi-span composite steel beam and plate girder bridges (curved and straight), multi-span prestressed concrete bridges, concrete retaining walls and reinforced concrete slab bridges.

His bridge projects include new bridges, widening of existing bridges and historic bridge preservation. His structural experience includes single and multi-story wood frame structures, single and multi-story steel frame structures, and concrete FEMA shelters.

He graduated with a Bachelor of Science in Civil Engineering from the University of Arkansas in 1977.

### Garver rises on ENR's list of aviation, environmental firms

Garver reached company highs in two lists recently released by Engineering News-Record. It was No. 18 on its list of Top Aviation Firms and No. 125 on its list of Top 200 Environmental Firms.

This year's list marks the fifth time in six years that Garver has appeared on the aviation ranking, which is determined by revenue earned by airport projects over the course of the past year.

The improvement on the environmental list marks a jump of more than

20 spots from last year and is thanks to Garver's full-service environmental capabilities, which allow the firm to handle all aspects of the environmental process, including environmental studies, National Environmental Policy Act documentation, public involvement, and agency coordination.

In addition, Garver's Water and Wastewater Team continues to grow its geographical footprint and focus on large water treatment programs and the rehabilitation of wastewater treatment plants.

### Garver engineers help form ASU alumni association

Four Garver current and recent engineers are associated with a new alumni association at Arkansas State University in Jonesboro: the College of Engineering and Computer Sciences (CoECS) Alumni Academy. The CoECS was formed in mid-July.

Among the charter members are Garver Aviation Electrical Leader Eric Farmer, P.E.; Facilities Design Project Manager Bryan Melton, P.E., RCDD; Senior Aviation Project Manager Adam Roberson, P.E.; and Garver's former CAO, Bert Parker, P.E.

Parker helped conceive the idea to launch the academy several years ago, and then asked Garver charter members to help found the endeavor. As noted in its bylaws, the Academy intends to provide a platform both to celebrate the members' accomplishments and to pro-



Parker



Felton



Roberson



Farmer

vide role models for current students and junior alumni.

"The A-State CoECS mission includes creating new career opportunities for engineers, and we need to start early on this," Farmer said. "The GarverGives programs at the high school level can help lead more students into engineering, which we know in Arkansas and in the nation, more engineers are needed to fill those careers."

Parker and Farmer will serve on the Academy's Board of Directors, and Parker and Melton will serve on its Executive Committee.

### Garver's White named to magazine's Forty Under 40 list



White

Garver Aviation Operations Manager Adam White, P.E., was named as part of the Northwest Arkansas Business Journal's Forty Under 40 list recently. As a member of the publication's 25th class, he joins an esteemed group of young professionals from a range of fields who are being honored

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for excellence in both their personal and professional lives.

In addition to being associated with more than \$500 million in design improvements at airports across the country, White has impacted his community while focusing on education, both advising engineering students looking to take the next step in their careers and leading high school students at his home church. In 2019, he rallied Garver's Fayetteville employees for an event that raised \$10,000 of a total \$30,000 GarverGives donation to the Arkansas Children's Northwest Hospital.

"Adam's dedication to both his craft and his community has made him a shining example across the Garver Nation," said Garver Aviation Business Director Frank McIlwain, P.E. "He's not only granted Arkansans better access to their jobs, their homes, their families, and beyond, he's also connected communities through his volunteer work – and given us all something to aspire to."

## MCE helping Fort Smith replace all its steel water pipes

McClelland Consulting Engineers has been tasked with the design of Phase I of the Fort Smith Utility Department's replacement of all pipes within its distribution system that are of galvanized steel construction and/or are 2-inch diameter or smaller.

The replacement is being done as part of the city's 2021 Neighborhood Water System Improvements program. The existing lines are either experiencing diminished capacity or are nearing the end of their useful life.

The new replacement water lines will be six inches. Approximately 29,000 linear feet of pipe will be replaced in the Phase I project.

The design is scheduled for completion in early 2022, and construction will begin after securing all required easements and

is contingent upon funding. The preliminary expected cost of construction is approximately \$1.75M.

*In the News continues on page 12*

### ACEC/A AFFILIATES

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## In the News (Cont'd)

### Whitehorn marks 50 years with MCE

Larry Whitehorn, a construction observer and associate of MCE, recently celebrated 50 years with the firm.



Whitehorn

“Not many people stay in the workforce for 50 years, much less for the same company,” said Daniel Barnes, P.E., president of MCE’s Fayetteville office. “Larry has contributed not only to MCE’s growth in the last 50 years but, if you consider all of the construction he has assisted with, he has also been a large part of the growth of Northwest Arkansas.”

### Crafton Tull begins master planning process for ballfield



Crafton Tull recently began the master planning process for the full renovation of Phillips Park in Bentonville.

The current park, located near SE 28th St. and Walton, features nine sports fields. City leadership aims to increase the number of ball fields to attract competitive youth baseball tournaments and add amenities for year-round community



**Calendar of events**

**ACEC/A Industry Update**  
Little Rock  
November

**Engineering Excellence Awards Banquet**  
Governor’s Mansion  
March 10, 2022

use. Once the master plan is complete, Crafton Tull will provide engineering and architectural services for the project.



### B&F does survey, civil design work for Lakeside school

B&F Engineering provided surveying and civil engineering design services for a \$41 million construction program at the Lakeside School District.

The new facilities include a 90,000-square-foot junior high,

34,500-square-foot performing arts center, and 9,500- and 16,500 square-foot cafeteria additions at the primary and intermediate schools, respectively. The project also included a full-size synthetic turf practice football and soccer field, synthetic turf additions to each playground, and expansion of parking and interior circulation drives.

The construction team also included French Architects and the construction manager, Hill & Cox Corporation.

The project was funded by a millage increase approved by voters in May 2018. Planning began immediately following passage of the increase. Regular meetings were held between the construction team and Lakeside administration and key stakeholders. The practice field was the first project to begin construction in October 2019 with other projects beginning soon thereafter.

Construction crews faced difficulties obtaining building materials due to the COVID-19 pandemic but worked vigorously during the months leading up to the start of school. All new facilities were opened Aug. 16.

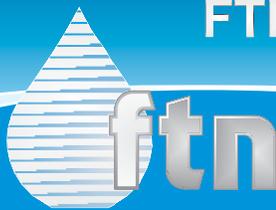
The density of Lakeside’s existing buildings and supporting facilities required creative site planning to accommodate the new facilities, manage vehicular traffic, mitigate increased stormwater runoff, and provide utility infrastructure. A combination of detention ponds and underground detention were utilized to keep post-development stormwater flows below pre-development levels. Existing water lines throughout the campus were upgraded to an 8-inch loop to increase fire flows. A great deal of water and sanitary sewer facilities were relocated to accommodate the improvements.

### Kelch joins HW staff



Kelch

Margaret “Meg” Kelch, P.E., has joined Hawkins-Weir’s Van Buren Office. Kelch graduated from Oklahoma State University with a B.S. in Chemical Engineering in 2014 and joined HW in



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August 2021. She has six years of engineering experience and is a licensed professional engineer in Texas.

## BXS breaks ground on new Little Rock headquarters

BXS Insurance, Inc., a subsidiary of BancorpSouth Bank (NYSE: BXS), broke ground Aug. 18 on its new northwest regional insurance and banking headquarters at 17900 Chenal Parkway in Little Rock.

The four-story, 40,000-square-foot building will house BXS Insurance and a full-service bank branch, including commercial lending, wealth management and mortgage services.

“We’re excited about the internal synergy that will be created by having multiple functions in the same building,” said BXS Insurance Regional President Mike

Halter. “We’re looking forward to serving our customers in this premier location.”

BXS Insurance, Inc., a wholly-owned subsidiary of BancorpSouth Bank, is licensed in all 50 states. BXS Insurance operates 31 offices with approximately 680 insurance and risk management professionals.

In the local area, BancorpSouth currently has four branches in Little Rock, one in Conway and one in Hot Springs.

The Hot Springs branch opened earlier this year, and a new building on East Oak Street in Conway is on track to be completed in November.

## Emerging Leaders program to meet in person this year

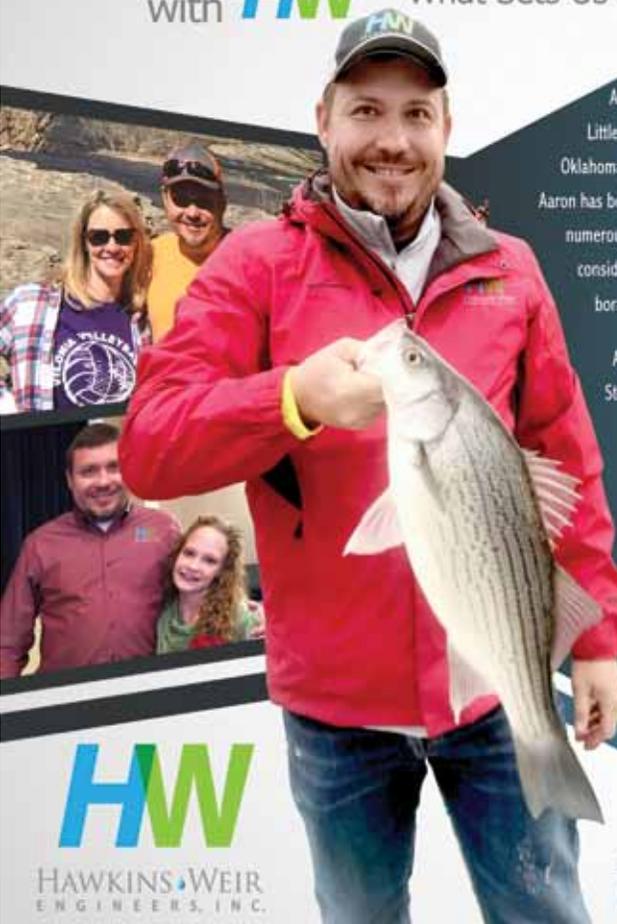
After a year where the Emerging Leaders program was held remotely, the leadership development course returns to

in-person meetings this year. This year’s joint program of the ACEC/A and ASPE was scheduled to start with a leadership development series Oct. 19-20. Other seminars were to focus on contracts and risk reduction, state government, Business 101, and a senior leadership roundtable.

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Aaron joined HW in 2010, opening its first regional office in Little Rock. He is a licensed professional engineer in Arkansas, Oklahoma, and Mississippi specializing in wet infrastructure design. Aaron has been actively involved as a member and in the leadership of numerous professional organizations throughout Arkansas, and he considers the friendships made through this service and in collaborating with clients the most rewarding aspects of his career.

Aaron earned his bachelors in civil engineering at Arkansas State University and completed a masters degree in environmental engineering at the University of Memphis. He and his wife Harriett, a high school science teacher, grew up in Jonesboro, AR and became friends in their high school marching band and church youth group. They married just before graduating college, and later lived in Cabot where Aaron served as a Commissioner of Cabot Waterworks. They now live with their three children in Faulkner County, where the majority of Aaron’s time is spent chasing his very active kids from one event to the next. He also enjoys fishing, BBQing, teaching at church, woodworking, tinkering, and beekeeping.

Aaron M. Benzing, PE.  
Vice President & Principal

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**TOP AWARD WINNERS.** Garver's Adam White, P.E., Kyle Bennett, P.E., and Chris Maestri, P.E., received the Grand Conceptor Award at the Engineering Excellence Awards at the Governor's Mansion. Aug. 26.

# Grand Conceptor-Air

At the ACEC/A's Engineering Excellence Awards, Garver won the Grand Conceptor Award for an innovative redesign of the Northwest Arkansas Airport that kept the planes flying while the work was done.

Difficult tasks are sometimes compared to "building a plane while flying it." This year's Grand Conceptor Award winners had it a little easier, but not much: They rebuilt a major part of an airport while planes were flying into and out of it.

Garver's Taxiway B Reconstruction for the Northwest Arkansas National Airport won this year's top award at the ACEC/A's Engineering Excellence Awards, held Aug. 26 at the Governor's Mansion. Last year's event was cancelled because of the COVID-19 pandemic.

Garver designed a \$17 million total reconstruction of 6,000 feet of the airport's 8,000-foot taxiway. The design saved the airport \$3 million by being based on current and anticipated traffic. Another \$1 million was saved by recycling part of the taxiway's concrete base. The project also won in **Category H: Transportation**.

The reconstruction was necessary because of an alkaline silica reaction (ASR) at the airport, known by its call sign, XNA. The aggregate used in the taxiway's original construction was expanding and cracking. Planes require a smooth surface to land, so the taxiway had to be closed multiple times throughout the year for maintenance. According to Nick Fondano, the airport's director of construction, the only way to fix the problem was to fully remove and replace the concrete.

Garver developed custom airfield geometry that fit the airport's customers.

Specialized software tracked turning movements of each plane in the airport's current and projected fleet over the next 20 years. The design will accommodate a 747 – even Air Force One – but it's optimized for the airport's typical customers. The Federal Aviation Administration has provided more flexibility in value engineering instead of requiring designs to meet a standard. At the time, the airport was seeing fewer smaller regional jets and more narrow-bodied larger regional jets, so more space was needed for turns.

"Instead of just using one of those ranges and saying, 'This is what we're going to do because this kind of fits the airport,' we really just zoomed into what the airport did today, was expected to do in the future, and customized pavement limits that fit them," said Adam White, P.E., senior project manager. "And that saved about \$3 million."



**TAXIWAY** Garver's design helped the Northwest Arkansas National Airport save \$3 million by being optimized to the airport's current and projected fleet over the next 20 years.

White originally designed part of the project in 2011-12, but the funding wasn't available to move forward.

Work was substantially completed in 2018 and finished in June 2019. The taxiway was rebuilt from scratch including dirt work, sub-base layers, new electrical equipment, new utilities and restriping. The concrete is 75 feet wide and 15 inches thick, plus two other layers that together are a foot deep. Also reconstructed were two four-inch-thick, 25-foot-wide shoulders. Construction lasted a year, with the total time from design to finish lasting 2.5 years. Constructors had to strip the existing pavement and crush the concrete into an aggregate base that had natural voids that wouldn't cause issues if it expands. Part of the old concrete was used as a 14-inch base beneath the four-inch asphalt shoulders. These were covered with an asphalt seal coat. The rest of the concrete is being stored in a big pile north of the airport.

*Continued on next page*

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While the project was being completed, planes used the remaining part of the taxiway to get into position to take off. When taking off the other direction, they used a parallel alternate landing surface. It had been constructed in 2011 as a temporary, narrower runway so the permanent runway could be reconstructed because of the same ASR issue.

Reconstructing a functioning airport is challenging. There are heightened safety and security concerns. Planes are taking off and landing at a pace Fondano estimated as occurring every 45 minutes. Workers must be careful with foreign object debris, or FOD, that can't migrate to the runway and alternate landing surface – each separated from the one beside it by 500 feet.

“It makes for a unique work environment,” said White. “There are things that you have to think about in airports like, are you generating dust which could be blowing across the runway messing with sensors that are on the airport?”

One of the most challenging parts of the project was the 10-14 days of enabling work that was done on the runway, including lighting and marking changes, before construction began. Crews couldn't affect operations, so they had to wait until the window of time between 1 a.m. and 5 a.m. when flights weren't arriving. Counting the nightly barricading and prep work, there were only about 2.5 hours available each day, and sometimes the last flight arrived later than 1 a.m. White and other Garver personnel along with contractors and airport staff were on site to make quick decisions, and the Federal Aviation Administration had to be kept in the loop. White brought his own broom and blower to help clear debris manually. One night the lights wouldn't appear on the taxiway, and it had to be barricaded. That occurred over Christmas break, and White had to make the decision remotely from his parents' basement in Russellville where he was visiting with his wife and three young children. Another night a huge storm appeared, and the opening of part of the taxiway had to be delayed because workers had tracked so much mud across it.

“We had to make a quick, game-time decision with XNA and say we can't open this taxiway; it's too dirty,” White said.



**PEOPLE'S CHOICE AWARD.** Michael Baker International won the People's Choice Award for the De Roche Creek Lateral Bridge Slides project for the Arkansas Department of Transportation. Pictured in the top photo are, front row, left to right, Shorath Rangomoth; Scott Thornsberry, P.E.; Megan Land; Fred Harper, P.E., and Amanda Furr, P.E. Back, Husam Saleem, Ph.D., P.E.; Stephane Bossio; Caroline Fox, P.E.; and Landon Miller, P.E.

“So we had to talk with tower, let everybody know what was happening, clean everything up, and then move on.”

White is also doing the design work for the reconstruction of the other part of the taxiway. The \$10 million project begins next March and will take six months. It will be more inconvenient because it will reconstruct the part of the taxiway that is in front of the terminal.

### People's Choice Award

The Grand Conceptor Award is chosen by a committee prior to the banquet. The other major award, the People's Choice Award, is chosen by banquet at-



**KEN ESTES** with BXS Insurance, left, presents the People's Choice Award to **Fred Harper, P.E.**, with Michael Baker International. BXS sponsored the award.

tendeers. This year's winner was Michael Baker International, for the De Roche Creek Lateral Bridge Slides project for the Arkansas Department of Transportation. The project also won in **Category C: Structural Systems, Large Project.**

The project involved replacing two Interstate 30 bridges that provide passage over De Roche Creek just north of Caddo Valley near Arkadelphia. The bridges required continual repairs and caused inconvenient traffic delays. In this first-of-its-kind Arkansas Department of Transportation project, Michael Baker used accelerated bridge construction lateral slides. The slides allowed the new superstructure to be built adjacent to the existing bridges on temporary supports, while the new substructure and foundations were positioned beneath the existing bridges – all while traffic continued to flow normally. Then during two separate short-term closures of only eight days each, the two new bridges were slid into position and the roadway approach work

was completed while traffic was reduced to a single lane in each direction.

Other benefits included reduced on-site construction and traffic disruption, increased safety for motorists and construction workers, greater quality and constructability, and reduced environmental impacts from vehicles and construction equipment emission.

The category winners were as follows:

- **Category A: Studies, Research, and Consulting Engineering Services – Olsson**, for the Beaver Water District Master Plan Demand and Transmission Capacity Update. As Northwest Arkansas grows rapidly, the Beaver Water District wanted a clear picture of when and how to budget for transmission expansion projects, including for its western corridor. Officials recognized the risk of aging water in their customer cities' distribution systems and needed long-range analysis and recommendations for facilities that would serve the region. Olsson provided a comprehensive master plan for the transmission

system, including a detailed analysis of the effects on the western corridor. This project is one of the largest working water models in Arkansas, and it provides a clear implementation schedule that will help the district and major cities provide water for decades to come.

Honor Award winners in the category were: Garver, for the Fayetteville Water Quality Report for the City of Fayetteville; Garver, for the LIT ABP Development Program for the Bill and Hillary Clinton National Airport; and FTN Associates, for the Arkansas Base Level Engineering Project for the Arkansas Department of Agriculture – Natural Resources Division.

- **Category B: Building/Technology Systems – Garver**, for the North Little Rock Municipal Airport automatic weather observing system (AWOS). For more than 10 years, pilots had been requesting an AWOS for air travel safety. While the nearest AWOS system at the

*Continued on next page*

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**CATEGORY A: STUDIES, RESEARCH, AND CONSULTING ENGINEERING SERVICES.** The winner was Olsson, for the Beaver Water District Master Plan Demand and Transmission Capacity Update. From left are Darryl Fendley, P.E., Beaver Water District; Erin Needham, Ph.D., P.E., and Chris Hall, P.E., Olsson; and Lane Crider, P.E., Beaver Water District.



**CATEGORY A HONOR AWARD.** FTN Associates received the award for the Arkansas Base Level Engineering Project for the Arkansas Department of Agriculture – Natural Resources Division. Pictured are FTN's Natalie Rogers, P.E., and Whit Montague, CFM, Arkansas state climatologist.



**CATEGORY B: BUILDING/TECHNOLOGY SYSTEMS.** The winner was Garver, for the North Little Rock Municipal Airport automatic weather observing system. Pictured are Jordan Culver, P.E., with Delta Airport Consultants; and Eric Farmer, P.E., with Garver.



**CATEGORY D: SURVEYING AND MAPPING TECHNOLOGY, LARGE PROJECT.** The winner was CEI Engineering, for the Bentonville GPS Monumentation Update for the City of Bentonville. Pictured are CEI's Kevin Hall, P.S.; James "Tex" Barnett, P.S., RPLS; and Dustin Riley, P.S.



**CATEGORY D: SURVEYING AND MAPPING TECHNOLOGY, LARGE PROJECT.** The winner was Crafton Tull, for the Stump Dump Fire Aerial Mapping project for EnSafe. Pictured are Crafton Tull's Nick Tucker, P.S., and Jeff Davis.

Bill and Hillary Clinton National Airport was only six nautical miles away, conditions at North Little Rock were different because of its elevation and proximity to the Arkansas River. Garver provided a comprehensive life cycle design and installation of the new AWOS, which included coordination with the FAA/Federal Communications Commission. With the new system,

pilots and passengers are traveling more safely, and the airport and city of North Little Rock are experiencing spurred economic development.

- **Category C: Structural Systems, Small Project – Crafton Tull,** for the Cow Face Road Bridge for Benton County. Set in 1970, Cow Face Bridge spans Hickory Creek in Benton County and was structurally deficient. Crafton Tull used a prefabricated single-span arch bridge and mechanically stabilized earth retaining walls that prevent debris accumulation and match the existing roadway. Crafton Tull's services included surveying, bridge engineering, hydrology and hydraulics, permitting, bid letting, and construction administration. Now, area residents, emergency responders, and school bus drivers enjoy greater – and safer – connectivity across the county.

- **Category D: Surveying and Mapping Technology, Large Project – Crafton Tull,** for the Stump Dump Fire Aerial Mapping project for EnSafe. Surveying and mapping data can help quench slow-burning fires. Gov. Asa Hutchinson declared a state of emergency in January 2019 after an underground fire at a privately owned tree and yard waste disposal site in Bella Vista threatened public health and safety. The Arkansas Department of Environmental Quality developed a remediation plan for the smoldering Trafalgar Road site, often referred to as the "stump dump." EnSafe, the state's representative for response actions, worked with Crafton Tull to survey and map the site. ADEQ and EnSafe used the survey data to determine site characteristics and



**CATEGORY F: WATER AND WASTEWATER.** The winner was Halff Associates, for Wastewater System Improvements for the City of Bull Shoals. Pictured are, from left, Rhonda Marlar; Mike Marlar, P.E., PLS; Julian Brown; Noah Easom; James Arbuckle, P.E.; Cynthia Roy; and Brian Vines, P.E.; all with Halff Associates; and Phil Shupe with Shupe and Associates.



**CATEGORY F HONOR AWARD.** CWB Engineers received the award for High Pressure Plane Improvements for Heber Springs Water & Sewer. Pictured are Paul Graham and Tom Stanford with CWB Engineers.



**CATEGORY F HONOR AWARD.** McClelland Consulting Engineers received the award for the Springdale Biosolids Dryer for Springdale Water Utilities. Pictured are Heath Ward and Rick Pulvirenti, P.E., Springdale Water Utilities; and Daniel Barnes, P.E., McClelland Consulting Engineers.

undertake early actions to address the situation. An industrial firefighting team mobilized to the site in June, and the fire was extinguished in July.

- **Category D: Surveying and Mapping Technology, Small Project – CEI Engineering**, for the Bentonville GPS Monumentation Update for the City of Bentonville. Bentonville’s monuments were being damaged by construction and development because its GPS network was outdated, and elevations were inconsistent and not on the established datum of NAVD88. CEI established five new monuments that meet National Geodetic Survey Class II standards and are now part of the blue-booking process for official NGS survey marks. CEI used three GPS receivers to observe 22 recovered monuments simultaneously, which enabled a solid network of connected vectors. Using OPUS Projects software, the entire network can be updated with future datum changes with no additional field work.

- **Category F: Water and Wastewater – Halff Associates**, for Wastewater System Improvements for the City of Bull Shoals. Bull Shoals received \$9 million in funding and \$6.5 million in grants from the United States Department of Agriculture Rural Development and the Department of Commerce’s Economic Development Administration to construct a new wastewater

*Continued on next page*

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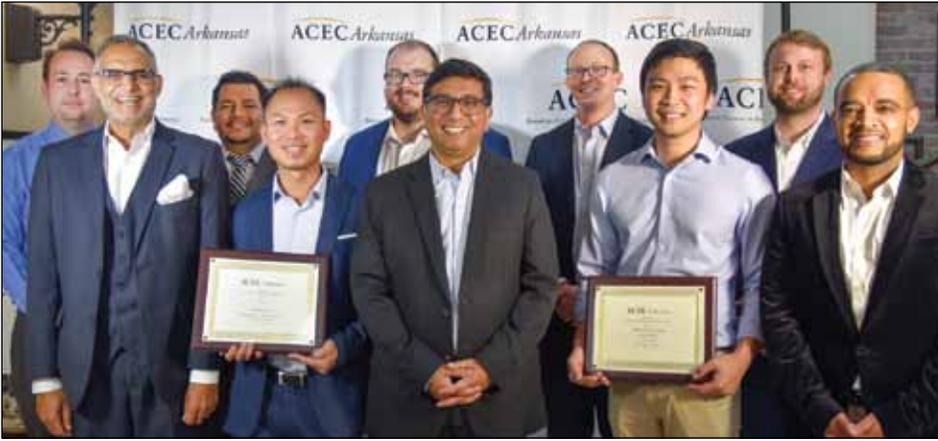
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**CATEGORY H: TRANSPORTATION HONOR AWARD.** Bridgefarmer & Associates received the award for the I-630 Widening project for the Arkansas Department of Transportation. Pictured are, front, Mansoor Ahsan, P.E.; David C. Dang, P.E.; Shahriar Azad, P.E.; Tomas Chu; and Eyosias S. Beneberu, P.E., Ph.D. Back row, Jesse D. Harrell, P.E.; Kelvin D. Hernandez, P.E.; Robert B. Darrington, P.E.; Mathew Trippett; and Grant Cox, P.E.

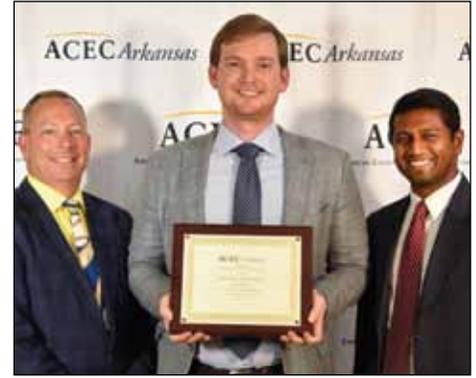
**CATEGORY H HONOR AWARD.** Michael Baker International received the award for the I-40 Maumelle Interchange project for the City of Maumelle. Pictured are front, Shorath Rangomoth; Scott Thornsberry, P.E.; Megan Land; Fred Harper, P.E., and Amanda Furr, P.E. Back, Hussam Saleem, Ph.D., P.E.; Stephane Bossio; Caroline Fox, P.E.; and Landon Miller, P.E.



**CATEGORY I: SPECIAL PROJECTS, LARGE PROJECT.** The winner was Crafton Tull, for the Railyard Bike Park Renovations for the City of Rogers. Pictured are Crafton Tull's Matt Crafton, P.E.; Rogers City Engineer Lance Jobe, P.E.; and Daniel Ellis, P.E., with Crafton Tull.

treatment plant and upgrade its sewer collection system. Half Associates assisted with the funding application and provided engineering and construction engineering services for the project. This environmental and recreational project treats wastewater discharge to one of

the most environmentally sensitive rivers in the United States. The White River, downstream of the Bull Shoals Lake dam, is one of the country's most highly used rivers for recreation and trout fishing. Working together, the City of Bull Shoals and Half Associates have improved the



**CATEGORY H HONOR AWARD.** McClelland Consulting Engineers received the award for the Congo and Longhills Roundabout for the City of Benton. Pictured are Jay Whisker, P.E.; Robbie Bullis, P.E.; and Manneesh Krishnan, P.E., all with MCE.

environment and preserved a natural resource.

Honor Awards were: CWB Engineers for High Pressure Plane Improvements for Heber Springs Water & Sewer; McClelland Consulting Engineers for the Utilities Bore Under the Saline River project for the Benton Public Utilities Commission; and McClelland Consulting Engineers for the Springdale Biosolids Dryer for Springdale Water Utilities.

- **Category H: Transportation – Garver**, for the aforementioned XNA Taxiway B Reconstruction for the Northwest Arkansas National Airport. Honor Awards winners in the category were: Bridgefarmer & Associates for the I-630 Widening project for the Arkansas Department of Transportation; CEI Engineering for the Mains, Trains, and Automobiles project for the City of Rogers; McClelland Consulting Engineers for the Congo and Longhills Roundabout for the City of Benton; and Michael Baker International for the I-40 Maumelle Interchange project for the City of Maumelle.

- **Category I: Special Projects, Large Project – Crafton Tull**, for the Railyard Bike Park Renovations for the City of Rogers. The three-acre Railyard Bike Park was often closed after rainfalls due to standing water and eroded dirt trails. The park's original dirt construction on the hillside adjacent to downtown Rogers could not sustain the stormwater flow from the area upstream, and city staff would spend hours after each rainfall restoring the park. Crafton Tull's new drainage system replaces the waterlogged clay soil with paved surface and robust



**CATEGORY I, SPECIAL PROJECTS, LARGE PROJECTS HONOR AWARD.** B&F Engineering received the award for the New Junior Academy project for the Hot Springs School District. Pictured are Tom Fenton, Christian Vaughan, Daniel George, P.E., and James Montgomery, P.S., all with B&F Engineering.

drainage. Now, the Railyard Bike Park recreates the thrill of a downhill mountain bike park. It is the longest paved slope-style bike park in the United States and is the first of its kind to use permeable rubber landers within paved lines.

Honor Awards in the category went to B&F Engineering for the New Junior

Academy project for the Hot Springs School District; and McClelland Consulting Engineers for the Little Rock Southwest High School project for the Little Rock School District.

• **Category I: Special Projects, Small Project – McClelland Consulting Engineers**, for the East Emma Avenue



**CATEGORY I, SPECIAL PROJECTS, LARGE PROJECTS HONOR AWARD.** McClelland Consulting Engineers received the award for the Little Rock Southwest High School project. Pictured are MCE's Dan Beranek, P.E., and Edwin Hankins IV, PLA.

Streetscape for the City of Springdale. Springdale envisioned East Emma Avenue in the Tyson District to reduce vehicular traffic speeds, provide walkability for pedestrians, and create a sense of community and gathering. McClelland's design involved 10 months of construc-

*Continued on page 23*

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## ACEC/A Member Spotlight

# Geotechnology sets firm foundations

St. Louis-based geotechnical firm is assisting with 30 Crossing, gas-to-liquid projects

A firm foundation is the key to any construction project, and Geotechnology can help ensure each project has one.

The St. Louis-based company specializes in applied earth and environmental sciences, geotechnical engineering, construction materials testing, geophysics and drilling, and other areas. Its geophysicists use many survey methods to find and characterize subsurface features. Its construction materials testing group performs quality control and quality assurance testing of soils, concrete, asphalt and other surfaces. Geotechnology Exploration, a limited liability company established in 2020, operates and maintains a fleet of 20 fully equipped drill rigs and other types of rigs. This year, it added a Terrasonic 1500CC sonic drilling rig that can drill 12-inch diameter borings to depths of 800 feet.

The company was founded in 1984 and serves clients across the Midwest and Mid-South from 10 offices. It has three full-time employees in its Jonesboro office but also rotates staff in and out of its Memphis office, said John Henson, P.G., South regional manager. That office has 42 employees, including seven professional engineers. Geotechnology became part of Universal Engineering Sciences this summer.

The company has been quite busy in Arkansas. It's providing full service exploration services as a subcontractor for Burns & McDonnell and HDR on the Arkansas Department of Transportation's 30 Crossing project. Geotechnology is providing a variety of services helping replace the I-30 Arkansas River bridges and working on land bridges, retaining walls and other structures on a more than seven-mile stretch. Its services have included hollow stem auger, mud rotary and wireline coring more than 100 feet into the ground and water. Geotechnology's 20-ton cone penetration testing (CPT) rig helped develop seismic and pore pressure data. Due to the tight timeline, Geotech-



**A VARIETY OF PROJECTS.** Geotechnology's projects have included the 30 Crossing project across the Arkansas River in Little Rock and North Little Rock, top. Much of the work has been done at night. Its coring has gone more than 100 feet into the ground and water. Above left, Geotechnology assisted in the construction of the \$200 million Amazon facility that opened in Memphis in late 2020. Above right, the company added a sonic drilling rig this year that can drill 12-inch diameter borings to depths of 800 feet.

nology mobilized five drill rigs plus a its CPT unit. Its crews completed more than 13,500 linear feet of soil drilling and sampling, 4,000 linear feet of rock coring, and more than 2,000 linear feet of CPT data acquisition in less than three months. Much of the work has been done at night, adding to the project's challenge.

The company also has been doing construction materials testing for 38 bridge deck overlay projects as a subcontractor with American Contracting. The projects involve turning a couple of inches of concrete into rubble and then overlaying it with latex modified concrete.

Geotechnology is performing soil and seismic testing on an 1,800-acre site for GTL Americas' multibillion gas-to-liquid project in Jefferson County. The plant will

convert natural gas into 1.7 million gallons of transportation fuels per day and will support more than 3,000 construction jobs and 200 permanent jobs. Two planned additional phases will each produce another 1.7 million gallons.

Geotechnology also performed geotechnical exploration, seismic engineering, and construction materials testing for the \$200 million Amazon fulfillment facility that opened in Memphis in late 2020. The five-story facility has 4.2 million square feet of floor space.

Geotechnology performed the geotechnical evaluation of the subsurface conditions and provided special inspections, construction observation, and materials testing services for quality control assurances during construction.

tion sequencing that required block-by-block temporary closing of Emma Avenue. Now, Emma Avenue has wider sidewalks featuring an intricate and appealing colored concrete pattern, street trees and landscaping, narrowed vehicular lanes, and pedestrian amenities. The Tyson District has a new life to encourage redevelopment and extended use beyond business hours. Since the project has been completed, multiple private businesses within the district have repainted their buildings, completed facade improvements, and added outdoor patios on the expanded sidewalks.

- **Category L: Industrial & Manufacturing Processes/Facilities – Crow Group**, for the Pinecrest Lumber Mill Dry Kiln Design-Build project for Green Bay Packaging/Pinecrest Lumber Mill. Green Bay Packaging needed to increase production at its lumber mill in Plummerville. Design-builder Crow Group helped it expand the plant, which included the demolition of an existing maintenance



**CATEGORY I: SPECIAL PROJECTS, SMALL PROJECT.** The winner was McClelland Consulting Engineers for the East Emma Avenue Streetscape for the City of Springdale. Pictured are Nathan Streett with MCE; Heath Ward and Rick Pulvirenti, P.E., Springdale Water Utilities; and Chris Bakunas, MCE.

shop, the construction of a new maintenance shop, concrete pads for green lumber storage, and overhead roofing for rough dry and finished lumber storage. The mill remained operational throughout construction, and timely co-

ordination was essential. The team's collaborative design and communication processes were integral for project success, with both in-person and conference calls taking place consistently throughout the project.

# Award winning engineering firm looking for additional talent

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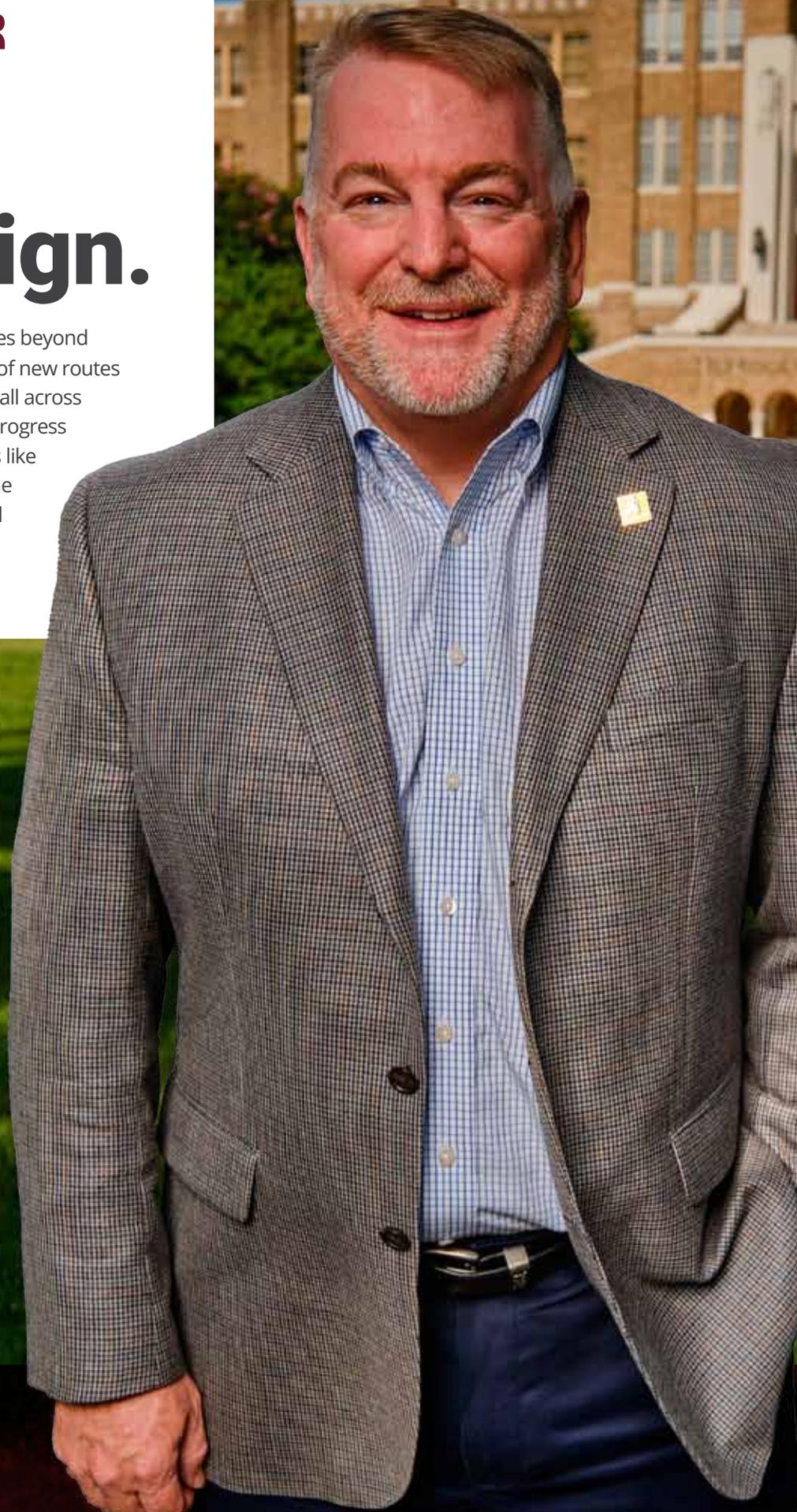
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# Beyond the design.

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