

October 2018

Arkansas
Professional

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



Order of Succession

Fred Harper, P.E., with Michael Baker International, left, is ASPE's new president, while MCE's Byron Hicks, P.E., will lead ACEC/A.

Busy three months before it gets busier

Legislators will gather in Little Rock in a little more than three months, and when they're in session, that's pretty much my world. Thankfully, regular sessions happen only once every two years.

Until then, there's plenty to keep both the ACEC/A and ASPE busy.

One of the most fun things the two organizations do jointly is Emerging Leaders. That's the annual program that brings young design professionals together to improve important skills that aren't taught in college: management, communication, public policy, etc. This will be the 10th year for the class.

Another big upcoming event will be the ACEC/A Agency Forum Nov. 7 in Little Rock. It brings engineers together with state and federal agency leaders to discuss changes in the regulatory, political and economic climate. It's a great opportunity to gain valuable information



Angie W. Cooper
Executive Director

and make industry contacts. Last year's event at the Arkansas Department of Transportation attracted a big crowd and an impressive lineup of speakers, and we are working on securing another great lineup for this year.

We're also beginning to make preliminary plans for the Engineering Excellence Awards. That's arguably the most impor-

tant event of the year, and we need your firm to participate. Engineers are some of the most competent people I've ever met, but one thing they're not so good at is tooting their own horn. That's understandable because their work is so important that public relations seems trivial in comparison. Plus, they're naturally humble people.

But submitting a project to the EEAs isn't just about bragging about your own firm. It's about celebrating engineering. This profession is based on standards, excellence and integrity – principles that should be celebrated, not hidden.

Thankfully, many firms understand that fact. Last year's EEAs attracted a record number of entrants. Let's break that record this year. You can't win if you don't try, and there's no shame in coming in second. Yes, some firms walk away with the top awards, but the real winner is the engineering profession. Help us make this an excellent event just like you do excellent work for all of your clients.

Finally, one more big event for engineers is coming up: the midterm elections Nov. 8. The work that we do in the session next year will depend on what happens in the elections this year. Some elected officials are supportive of the engineering profession's goals, and some are not. If you're wondering who's who, I'll tell you. (But not in print!) But here's a hint: Particularly at the state level, it's not necessarily based on party labels.

The November elections also will give engineers a chance to vote on important issues. Unless they're ultimately disqualified from the ballot, this year's proposals include one to limit jury awards, one to increase the minimum wage, and one to make Arkansas' legislative term limits the toughest in the nation. There's also one to legalize casino gambling.

Engineers can disagree on those issues. Where they should be alike is in their thought process. If engineers approach elections like they do their profession, they will carefully weigh the information and select the best choice based on logic and reasoning.

So please go to the polls. We need you to counteract the many voters who don't do it that way.

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16 Fred Harper, P.E., with Michael Baker International, left, is the ASPE's new president, while Byron Hicks, P.E., chairman and CEO of McClelland Consulting Engineers, now leads the ACEC/A.

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When Clovis Satterfield started Satterfield Land Surveyors in 1973 in Alma, he was determined not to cut corners. The firm's commitment to excellence hasn't changed.

16 **Cover / Hicks: Share ACEC's benefits, and it will grow**

ACEC/A's new president says membership will grow as more engineers understand how the organization serves the industry.

20 **Cover / Harper: Never forget a P.E.'s responsibility**

ASPE's new president says disasters are a reminder of engineers' important role, and what can happen when they compromise on quality.

IMPROVING COMMUNITIES IN ARKANSAS AND BEYOND



You know us for our expertise in water and wastewater projects in Arkansas. But McGoodwin Williams and Yates is now a division of Olsson Associates, an engineering and design firm that offers a broader range of services. We have the capabilities to solve all your engineering and design challenges.

ACEC will stand up for engineering profession

As your newly elected ACEC Arkansas president, I am excited about our upcoming year and ready to get to work. A large part of my role this year will be to share with current and potential members the importance of ACEC and the positive impact we have on our industry. We function as the voice of the engineering profession through



Byron Hicks, P.E.
ACEC/A President

advocating for legislation that will positively affect the industry and opposing legislation that will negatively affect it. Currently, ACEC has the largest federal PAC in the design industry. With this sizable leverage, you can be confident we are effecting change on behalf of engineers at a local and national level.

We recently saw a significant win for our profession in the 20 percent deduction for pass-through corporations that was extended to engineering firms in the tax reform bill passed last year. This bill was originally written to exclude service organizations such as engineers, lawyers, doctors, and accountants. With the help of lobbying by ACEC, the bill was modified to allow engineering firms access to this benefit. (However, lawyers, doctors, and accountants are still excluded.)

During the last session, SB521 was introduced. This bill called for the reform of the industry-standard qualifications-based selection process for procurement of engineering projects. We strongly believe the introduction of fees into the selection process diminishes what is most important: experience and credentials.

We also saw SB332, which if passed, would have mandated that PVC pipe be considered on all municipal projects where drainage, water, and sewer piping would be used. Due to a lack of clarity and other verbiage, this bill would unnecessarily increase engineering fees for pre-design services. It also would potentially unlock the door for lawsuits against engineers and utility owners, as well as

threatened the authority of utility owners to make decisions for their systems.

Our Arkansas chapter of ACEC saw quite a few issues involving licensure, fluoride, design-build, and eminent domain as well. We can expect some of these and similar issues to pop up during the next session, which begins in January. Until then

I want to focus on increasing our membership, as well as meeting attendance. I'd also like to focus on strengthening communications between our members with more email updates and regularly scheduled meetings for all committees.

On a national level, ACEC continues to urge Congress to invest in the nation's critical infrastructure. This continues to attract bipartisan support in Congress. It is ACEC's hope that this plan will emphasize investing in existing federal programs such as the EPA's State Revolving Fund (SRF), the Airport and Airway Trust Fund, Federal-Aid highway and transit programs, and USDA programs for water and wastewater.

A part of this plan, and one that is of great importance to me due to my background in water and wastewater, is the Water Resources Development Act (WRDA). More than \$600 billion is needed in funding nationally over the next 20 years just for traditional water and wastewater projects to meet standards under the Clean Water and Safe Drinking Water Acts. ACEC will continue to urge Congress to include funding and financing mechanisms in the WRDA to assist cities and local communities to address water and wastewater challenges that threaten human health and the environment.

We're sure to have an interesting and challenging year, but I am confident our organization will stand up for the interests of engineers in Arkansas. I'm excited for the year ahead and look forward to serving you as your ACEC president.

ACEC

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Checking up and speaking up

On Aug. 14, engineers were reminded how important their jobs are, and so was the rest of the world.

That's the day that bridge in Genoa, Italy, collapsed, and 43 people died.

According to a New York Times report, the collapse could have been prevented had the warning signs been heeded. The bridge was designed in the 1960s, and while it was beautiful, it lacked redundancy. The loss of one important support could cause a collapse. The concrete-encased steel cables supporting the bridge began corroding soon after it opened in 1967, but the corrosion was hidden by the concrete, which also began deteriorating by the late 1970s. Tests performed by a structural engineering professor last year indicated damage had occurred, but the private company that manages the bridge did not respond with urgency. The story's unhappy ending occurred on Aug. 14, when drivers who had trusted the bridge would be safe instead found themselves falling 150 feet to their deaths.

For bridge engineers like me, this is our worst nightmare come true, which is why we all work so hard to keep it from happening. Regardless of whether we specialize in bridges, water treatment systems, or other disciplines, engineers don't have to wonder if our jobs matter. If we don't do them well, people might die.

When a major accident like the Genoa bridge collapse occurs, our firm's leadership responds by reminding engineers not to cut corners. As ASPE president, I plan to do the same this year. We must check, double check, and recheck our work to make sure it's right.

In the coming months, the investigation into the bridge collapse will no doubt reveal a failure of the bridge's design and maintenance processes. Somewhere along the way, professionals did not ensure the

bridge was safe, either through inattention or incompetence.

Moreover, we may also learn about individuals who did recognize the bridge had problems. For whatever reasons, they failed to warn decision-makers, or failed to do so with enough urgency that the decision-makers would awaken the bureaucracy to act. Perhaps they did both but, when none of that succeeded, failed

to warn outsiders who might have influenced the situation. As engineers, we're responsible not only to check up on matters of public safety, but to speak up as well – and if necessary, to speak loudly and clearly, even to the point of risking our jobs.

Speaking up is also important when it comes to public policy. In recent state legislative sessions, lawmakers have tried to pass bills that could have weakened licensure and qualifications-based selection standards. In the process, they would have weakened public safety, because those practices protect the public just like a well-designed and well-maintained steel cable on a bridge does.

Those bills were stopped in part because design professionals reminded legislators that standard work is much more costly than work performed by the most qualified available professionals, even if they charge a little more. When it comes to matters of public safety, most of us are looking for more than something "designed by the lowest bidder."

Legislators understand that as well. But another session is approaching in January, and bills like those will reappear in one form or another.

That being the case, engineers must continue making the case for qualified, licensed professionals chosen by a qualifications-based selection process. Time and again, we're reminded there's no safer or ultimately cheaper way to go.



Fred Harper, P.E.
ASPE President

In the News

Garver expansion continues; adds Denver, St. Louis offices

Garver recently announced its two most recent office openings, in the Denver and St. Louis areas. The additions bring its total to 26 offices located in 11 states.

Garver's Denver office will provide further support to its water clients by combining its experts spread across the country with a locally focused team.

The St. Louis office will serve Garver's transportation clients with a focus on transportation planning and traffic. Staffed with experts across the country, Garver's Transportation and Planning Traffic Team provides complex traffic forecasting, simulation and safety analysis, signing, signalization, and intersection improvements.

Garver named to Zweig Group's Hot Firm List

For the eighth consecutive year, Garver was named to the Zweig Group's Hot Firm List, which ranks the 100 fastest-growing architecture, engineering, planning, and environmental

consulting firms in the United States. Garver's expansion efforts in 2017 included new offices in Dallas, Round Rock, San Antonio, Athens, and Harlingen, Texas; as well as the acquisition of Wichita, Kansas-based firm Ruggles & Bohm. Garver now has 26 offices spread across 11 states.

Garver recognized as bike-friendly business

Garver's commitment to promoting a healthy lifestyle for its employees was recognized recently with a Gold-level Bicycle Friendly Business award from the League of American Bicyclists. Chosen for incentives, programming, and amenities that enable and inspire a continued dedication to cycling, it is the second time Garver has earned the distinction.

For more than a decade, Garver's leadership has emphasized cycling as a benefit to its employees. What began as a group of employees cycling to work now includes loaner bikes for employee use, as well as on-site bike storage and shower facilities. Garver's North Little Rock headquarters is also conveniently located near the Arkansas River Trail, allowing it to serve as host for several bicycle races and events each year.

MWY-Olsson's Needham earns LEED Green Associate status



Needham

McGoodwin, Williams & Yates (MWY), a division of Olsson Associates, has announced that Erin Needham, Ph.D., E.I., has achieved Leadership in Energy and Environmental Design (LEED) Green Associate Status. Needham completed the exam with a score of 196 out of a possible 200.

Needham joined the Fayetteville office of MWY in June 2017 after completing her education at the University of Arkansas. She earned both her Ph.D. of civil engineering and Master of Civil Engineering in 2017, and had completed her Bachelor of Civil Engineering in 2013.

Needham brings an added level of depth and dimension to the MWY team in the application of advanced water and wastewater technologies and the ever-increasing need to incorporate sustainable design practices into the firm's water projects.

Olsson Associates offers comprehensive design and consulting services in infrastructure, environmental, field services and facilities. To learn more, go to www.olssonassociates.com.

Cartwright joins MWY-Olsson staff

John Cartwright, a recent graduate of Arizona State University, has joined McGoodwin, Williams & Yates (MWY), a division of Olsson Associates, as an associate engineer. Cart-

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In the News (Cont'd)



CRAFTON TULL'S NEW GRADUATE ENGINEERS. Crafton Tull has recently hired its newest group of graduate engineers. From right to left are Connor Threet, E.I., Fayetteville office; Rose Hendley, E.I., Rogers office; Sam Lahodny, E.I., Rogers; Ali Karr, E.I., Rogers; Levi Gottsponer, E.I., Rogers; Matthew Short, E.I., Oklahoma City office; Kris Gifford, E.I., Rogers; Andrew Evans, E.I., Rogers; and McKenna Belcher, E.I., Little Rock office. For more information on available positions, visit craftontull.com.



Cartwright

wright graduated last May with a B.S. in chemical engineering and started working at MWY shortly thereafter.

At Arizona State, Cartwright focused his studies in chemical engineering on wastewater and polymers, which is a great fit for the firm's deep expertise in designing wastewater and water facilities.

Cartwright earned an associate of science with a focus in engineering at Pierce Community College before finishing his studies at Arizona State. He is a native of Puyallup, Washington.

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Crafton Tull will design state's first SPUI interchange

Crafton Tull was hired by the Arkansas Department of Transportation (AR-DOT) to provide civil engineering design services on the first Single Point Urban Interchange (SPUI) to be constructed in Arkansas.

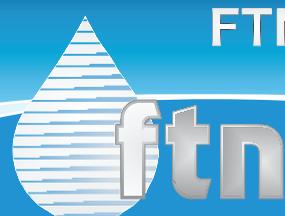
The \$26.9 million project began construction in late August with the purpose being to reconfigure the existing I-49/Hwy. 71B standard diamond interchange

to a SPUI as a way to increase capacity. Total length of the project is one mile on I-49 and 0.6 miles on Highway 71B.

The main travel lanes on I-49 will be widened from four 12-foot-wide travel lanes to six 12-foot-wide travel lanes. Highway 71B will be widened from five 11-foot-wide travel lanes to six 12-foot-wide travel lanes with curb and gutter. Additional lanes will be added at the ramps, replacing the I-49 bridges over Highway 71B with one bridge to accommodate the new six-lane section, new traffic signaling at Highway 71B and SE Moberly Lane, modifying the existing signal at the Highway 71B and North 46th Street intersections and the interchange ramp intersections, adding lanes to North 46th Street and SE Moberly Lane, and replacing the sidewalks along Highway 71B.

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MCE announces 10 new staff hires in four offices

McClelland Consulting Engineers, Inc. has announced 10 new hires in its four offices.

In its Little Rock office, the firm has hired Claire Schoppe, P.E., project manager, transportation and traffic; James "Jay" Whisker, P.E., project manager, transportation and land development; Brett Budolfson, PLA, project manager, site design and land development; Zack Harris, construction observer; and Jerri Worthington, human resources and payroll administration.

In its Fort Smith office, the firm has hired James "Andy" Hanna, E.I., project designer.

The firm has also hired Peyton Denton, survey technician, and Kelbie Osburn, administrative assistant, in its

Fayetteville office; and Coby Hendrick, project designer, and Tyler Suder, project designer, in its Tulsa office.

"We're continuing to grow our capabilities and strengths in all areas of our company," said MCE's CEO, Byron Hicks, P.E. "The talent we have added is exciting, and it will certainly allow us to continue our growth and meet client expectations. We are excited to welcome the addition of 10 new team members, companywide, in the third quarter."



Schoppe

degree, she worked with the Arkansas Department of Transportation (ARDOT) for five years before joining MCE.

Schoppe will assist the transportation department in the design aspects of street and roadway projects. After graduating from Louisiana Tech with an engineering

Whisker comes to the Little Rock MCE office as a project manager focusing on street and roadway design. He has dedicated his 25-year career to providing design leadership on a wide range of municipal and transportation projects and is a certified floodplain manager. Prior to coming to MCE, he served as city engineer for Jacksonville. He is a past president of American Public Works Association, Arkansas chapter and currently sits on the executive committee. On Sept. 26, he was to become chairman of the Arkansas Floodplain Managers Association.

With over 15 years of landscape architecture, land planning, and conceptual design experience with a focus on sustainability, Budolfson joins MCE in the

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Whisker

PLEASE WELCOME OUR NEW TEAM MEMBERS:



Nathaniel Scott, PE



Michael Biebesheimer, PE



Ethan Hutchins, BSME



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In the News (Cont'd)



Budolfson

Little Rock office as a project manager in the landscape architecture department. He has worked on urban environments, community master planning, mixed-use

developments, and parks. An avid rider, his passion is designing bike and multi-use trails like the Waiohuli Bike Park in Wailuku, Hawaii, the Big Sky Bike Park in Bend, Oregon, the Railyard Bike Park in Rogers, and many others.

As a member of the construction observation team, Harris ensures contractors are following the specified plan created by MCE's project designers. Observers monitor activities and provide up-to-date progress reports on construction phases and subsequent project performance.

Worthington will assist every employee in each of the firm's four offices as human resources/payroll administrator. With a Bachelor of Science in Human Resources Management, she brings more than 10 years of payroll management, benefits coordination, and staff planning experience to the company.

The newest member of MCE's newest office in Fort Smith, Hannah will serve as a project designer for various types of civil design projects. He is a graduate of the



Hannah



Calendar of events

ACEC Fall Conference
Oct. 28-31
Las Vegas, Nevada

ACEC/A Agency Forum and Membership and Board of Directors Meeting
Nov. 7
Little Rock

University of Arkansas, Fayetteville with a Bachelor of Science in Civil Engineering and previously worked with ARDOT as a construction observer.

As a member of the Survey Group in MCE's Fayetteville office, Denton will assist with field operations including boundary surveys, topographic surveys, and construction layout and control utilizing the full array of leading-edge technologies and equipment.

In her primary role as an administrative assistant and receptionist, Osburn will receive and direct clients and visitors, receive and relay incoming calls, and provide clerical support for MCE's Fayetteville office.

Hendrick joins MCE's Tulsa office as a project designer. He has four-and-a-half years of experience within the civil engineering field. Suder is also a project designer in the Tulsa office and will

be working on transportation and CAD drawings. He has been working in the civil engineering field for a year and a half.

MCE's Beranek with Chamber's Leadership Arkansas



Beranek

Dan Beranek, McClelland Consulting Engineers, Inc. project director and president of MCE's Little Rock office, has been selected to become a member of the Arkansas

State Chamber of Commerce's Leadership Arkansas Class XIII.

The program, which was introduced in 2005, is designed to give community leaders a comprehensive understanding of Arkansas' economic and political challenges. More than 600 alumni have completed the program.

MCE's Walla joins ASPS Education Committee

Paul Walla, PLS, survey department supervisor in McClelland Consulting Engineers' Fayetteville office, is serving on the Arkansas Society of Professional Surveyors' (ASPS) Education Committee.



Walla

Walla has been with MCE for eight years and served as ASPS president from 2002 to 2003. His areas of expertise include topography and mapping, construction layout services, water line extension, sewer line mapping, and roadway design.

As MCE's survey supervisor, he is in charge of the day-to-day surveying activities in calculations, data processing, data collection, drafting, legal research, and easement preparation.

JOB OPPORTUNITY

B & F Engineering, Inc. is searching for a Staff Engineer in its Hot Springs office.

Responsibilities: Perform introductory planning and design under the supervision of a licensed professional engineer. Produce civil development plan sheets for commercial and industrial projects including site layout, grading, drainage, erosion control, water distribution, and sanitary sewer collection using AutoCAD and AutoCAD Civil3D. Calculate earthwork quantities. Assist with preparing

public hearing displays. Attend field inspections with engineers. Nominal travel 1-2 times every two months for site inspections.

Education: Bachelor's degree in Civil Engineering or closely-related field. Possess Arkansas P.E./Intern license or have graduated from accredited engineering program.

Mail resume to: B & F Engineering, Inc., ATTN: Tammy King, 928 Airport Road, Hot Springs, AR 71913 or email to tammyk@bnfeng.com



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The Education Committee's purpose is to find and recommend ways of improving surveyors' training within and without ASPS. The committee is also tasked with raising awareness of the profession of surveying in Arkansas schools. The committee will be scheduling meetings at numerous schools across the state, and it is planning meetings with the Arkansas School Counselor Association.

Walla was asked to join the committee by Mike Wright, PLS, ASPS president. Also asked to join were Terry Cleaver, PLS, and John Dennis, Ph.D., PLS.

Cleaver is a survey instructor at the University of Arkansas Community College at Morrilton, where he directs the Associate of Applied Science (AAS) of Surveying program as well as a Technical Certificate in Surveying program.

Dennis is an associate professor at the School of Forestry, Agriculture & Natural Resources at the University of Arkansas at Monticello. He teaches in the Bachelor of Science in Land Surveying program,

and also in the Geospatial Science Option program

The two colleges that offer degrees in surveying play a vital supporting role in the surveying profession in Arkansas.



Scott



Hutchins

Brown adds three engineers to team

Brown Engineers has added three members to its team in 2018.

Nathaniel Scott, P.E., is an electrical engineer with expertise in industrial power and controls, as well as power sys-

tem analysis. He received his Bachelor of Science in Electrical Engineering from Arkansas Tech University.

Ethan Hutchins interned at Brown while earning his Bachelor of Science in Mechanical Engineering from the University of Arkansas at Little Rock, and

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ACEC/A Member Spotlight

Satterfield: Making sure it's correct

Alma-Based land surveying firm started in 1973 gets it right “no matter how long it takes”

When Clovis Satterfield started Satterfield Land Surveyors in 1973 in Alma, he was determined not to cut corners. The firm's commitment to excellence hasn't changed.

“If you didn't know you needed to tie down a corner, go get it because if you didn't know, then probably more than likely we needed it,” said the company's co-owner, Ricky Hill, PLS, of its founding philosophy. “And we have tied this area, this portion of the country, down. We've got it tied from corner to corner, and even today, we still go back and check what we did years and years and years ago because that's the only opportunity you have to find something or correct something or do something different.”

Kyle Satterfield, Clovis' son and the firm's other co-owner, agreed, saying, “In a nutshell, basically, no matter how long it takes, make sure it's correct. We are correct. We'd rather take longer and be correct than hurry up and get through something and it be wrong.”

Hill started working with the firm in the summer of 1974 while still a college student and then returned to work there full-time after he graduated the next year. Five years ago, he and Kyle Satterfield bought the firm. Clovis is semi-retired but still comes to the office occasionally.

Hill and Satterfield have been working together for years. Clovis would send his son as early as age 13 out to the fields to do surveying work with Hill's crews.

“He was my summer help for a long time, and then he came in, and eventually we became business partners,” Hill said.

The company originally did a lot of surveying work for gas wells. Today it mostly does rural boundary surveys, site plans, subdivisions and rural land developments. It does a lot of surveying work for power lines and pipelines. Oklahoma Gas & Electric is a major client.

The company built its business in western Arkansas but now finds itself doing much of its work in the state's fast-



SATTERFIELD LAND SURVEYORS has five field crews and 13 employees who cover all of Arkansas and Oklahoma. The company's co-owners are Ricky Hill, PLS, and Kyle Satterfield, the son of its founder, Clovis Satterfield.

growing northwest corner, where its five crews are busy with tract splits and lot line adjustment surveys. Kyle Satterfield said the firm's manpower helps it keep up with demand.

“If I had to describe our firm, we're able to do more than any other surveying firms because we have more crews, so we have more utilization that way,” he said. “A lot of people in Northwest Arkansas will contact us to come from Alma because we can get to it quicker.”

While the company's client list and work locations have changed since it began, its principles haven't. Those include showing respect for the people it serves. Surveying can be a challenging business because it often means giving people bad

news; i.e., the fence is in the wrong place, and what they've always thought is their property actually isn't. Some people don't take that news well.

“If you say something about somebody's wife, their mother, kick their dog, say something about their child, or take two inches of their ground, they're always ugly,” Hill joked.

However, field crews always have been instructed to avoid conflict and show respect.

As Hill explained, “We were held accountable in the field for our actions and how we drove and how we treated people. It's been that way ever since, and Kyle and I stress the same thing to our guys nowadays.”

In the News (Cont'd)



Biebesheimer

has accepted a position with Brown as its newest mechanical designer.

Michael Biebesheimer, P.E. received his Bachelor of Science in Mechanical Engineering from the University of Arkansas. He is based at Brown's new Northwest Arkansas branch in Bentonville.



RIBBON CUTTING. Michael Baker International team members join ARDOT officials in symbolically opening the newly designed Highway 70.

ect of U.S. Highway 70 between Interstate 30 and Hot Springs.

This \$78.5 million construction project for the Arkansas Department of Transportation (ARDOT) expanded the 18-mile stretch of highway from two lanes to five, reconstructed four bridges, constructed 20 box culverts, and signalized one intersection. The enhanced corridor was formally opened to traffic at a ribbon-cutting ceremony June 1. The firm was represented by Mike Stengel, P.E.,

Bob Myers, P.E., Scott Thornsberry, P.E., Fred Harper, P.E., and Leonard Speed.

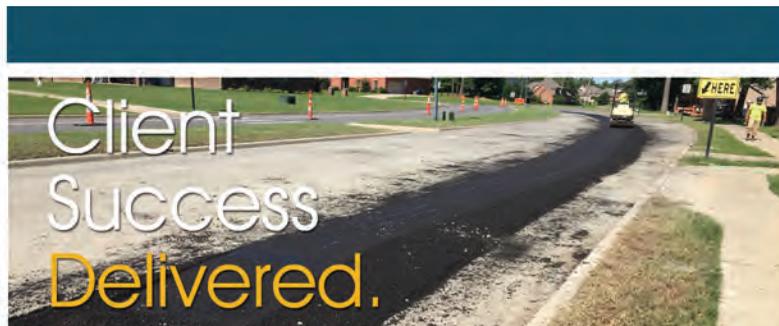
During the initial construction of Highway 70 in 1956, additional right of way was purchased to accommodate the future construction of additional lanes; however, the right of way was never cleared or graded. As traffic volume increased through the Ouachita Mountains, so did the number and severity of accidents due in part to limited roadway width, narrow shoulders and clear zones, as well as limited sight distances due to rolling terrain, tight curves and dense forest.

Michael Baker was tasked to correct portions of the roadway that didn't meet current standards for horizontal and vertical alignments, while minimizing right-of-way impacts, environmental impacts and costs. In lieu of widening predominantly to one side to take advantage of the existing right of way as anticipated,

In the News continues on page 19

Michael Baker designs Highway 70 changes toward Hot Springs

Michael Baker International, a global leader in engineering, planning and consulting services, provided environmental and design services for a widening project



With a water crisis on the horizon and less than 6 miles separating them, the City of Maumelle turned to Central Arkansas Water. CAW called on Hawkins-Weir Engineers, Arkansas' Wet Infrastructure Leader, for the planning, design, and construction services needed to quickly and cost effectively deliver their pristine water to every tap. By working closely with both CAW and Maumelle, the 30" transmission main was installed under budget and ahead of the aggressive 12-month schedule.



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ACEC/A PRESIDENT. Byron Hicks, P.E., is MCE's CEO and the new ACEC/A president.

Hicks: Share ACEC's benefits, and it will grow

ACEC/A's new president says membership will grow as more engineers understand how the organization serves the industry

Byron Hicks, P.E., remembers his first big project with McClelland Consulting Engineers, the company he now leads as chairman and CEO. He had recently moved to the firm from AFCO Steel, a steel fabricator in Little Rock, and did not have much experience in civil engineering when he was tasked with helping design a water treatment plant for Community Water System on Greers Ferry Lake. An initial design element was hanging a 24-inch water line on the Narrows Bridge across Greers Ferry Lake. The line was to be attached to the side of the historic bridge, and there was a span of about 65 feet where there was nowhere to attach it.

Hicks designed a truss to span this distance that included a camber that would allow the truss to flatten to a level plane after being loaded. After it was built, an observer called Hicks saying the water line was only touching the middle of the truss because of the camber.

"I was on the other end of the phone," Hicks said. "He couldn't see me crossing my fingers, but I said, 'Well, load the pipe up with water and see what it does.' So, they loaded the pipe with water and got that extra weight on it, and it flattened out, worked exactly like we wanted it to. ... I was very young at that point, and it was a good feeling to see that happen."

Hicks has been MCE's CEO since 2009. The company focuses on infrastructure for municipalities, which includes water and wastewater, streets and drainage,

airports, parks, sports complexes, and private land development projects. MCE also provides landscape architecture, geotechnical engineering, materials testing, and surveying services. It employs about 125 people including 48 engineers and six landscape architects with offices in Little Rock, Fayetteville, Tulsa, and Fort Smith.

In August 2016, the company moved its Little Rock headquarters from an office near downtown to a leased 19,000-square-foot building on Kanis Road. Hicks said the new location provided a "motivation boost" for employees and offers room for the company to grow.

"We've always felt like if you're not growing, you're probably dying unless you just have a niche that no one else has," he said.

Like the water line across the Narrows Bridge, Hicks now is carrying some extra weight as the newest president of the American Council of Engineering Companies of Arkansas. Among his goals are increasing membership and helping to protect the profession legislatively.

“ACEC is a strong voice for our profession locally and nationally,” he said. “Membership is always on our mind. We’re trying to grow membership. I want to grow membership. I have some new ideas that I would like to try.”

Hicks wants to strengthen the ACEC/A’s committees and improve communication with members and nonmembers. The more that members understand the Council’s benefits, the more it will grow by word of mouth. He wants to educate members about its lobbying activities and develop opportunities for members and prospects to visit with legislators.

“The average engineer probably doesn’t realize what ACEC does for them, so I want to get the word out,” he said.

Legislative advocacy

Among the political issues facing engineering these days are legislative efforts that would undermine qualifications-based selection, efforts to weaken licensure requirements, and efforts opposed by ACEC/A to require the consideration of PVC pipe in construction projects. The industry in Arkansas has successfully lobbied the Legislature in all of those areas in recent sessions, but bills like those tend to return again and again. Nationally, the industry has successfully lobbied to include engineering companies in a 20 percent deduction for so-called “pass-through” businesses in the tax reform bill signed by President Trump last year. That effort showed the industry’s power and influence, Hicks said.

In 2017, Hicks testified regarding both the QBS and PVC bills. One of those appearances was the first time he had spoken before the Legislature.

“It was a little nerve-wracking,” he said. “I remember when it was my time,

of course I had in mind what I was going to say, but they made me last and were running out of time, so they told me I had two minutes, go! ... I had more than two minutes I wanted to say. But it went all right. It’s good for everybody to get outside the box and outside of their comfort zone from time to time.”

Those intense minutes at the table didn’t scare Hicks away from political involvement. He already had experience as a member of the Sheridan School Board for the last 15 years, so he was no stranger to politics. Now he plans to continue to make engineering’s case at the Capitol.

“To me, it’s fun to get involved,” he said. “There’s also a sense of satisfaction knowing you’re doing your civic duty.”

Another major area of concern is the need for adequate infrastructure spending. Hicks has had firsthand experience with that issue at MCE.

“A lot of our water and wastewater infrastructure was built in the ‘70s with

Continues on next page

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grant support from the federal government,” he said. “A lot of it is reaching the end of its useful life. So, there’s a real need, I think, for Congress to focus on trying to provide more funding for these federal programs.”

An engineer, like his dad

Hicks, 50, wanted to be an engineer from an early age. His father, Max, was a civil engineer at what is now White-Daters & Associates in Little Rock, but he died when Hicks was seven years old. From that point on, Hicks planned to follow in his dad’s footsteps even though he didn’t really know what an engineer did at first. The middle child and oldest son, Hicks became the man of the house at the family’s home in East End, an unincorporated community in Saline County. He grew up playing with tools and working with his hands – fixing motorcycles, lawn mowers, and go-carts, trying to figure out how they work.

After graduating with a civil engineering degree from the University of Arkansas, he went to work at AFCO Steel. It was a good job, but after three years he was ready for a change. A friend suggested MCE, which at the time was led by Jim McClelland, P.E., the son of the company’s founder. There, Hicks had the freedom to expand his engineering skills.

“When I first started at MCE, it was kind of sink or swim,” he said. “I didn’t have a lot of civil engineering experience. ... But I was given a lot of responsibility, and as long as you were able to handle that responsibility and do your job, there was a lot of flexibility in the way you managed your work. They always provided guidance when you needed it, but I started managing projects from day one.”

The water treatment plant for Community Water System on Greers Ferry Lake remains one of Hicks’ many memorable projects. Others include the conversion of the Junction Bridge connecting Little Rock and North Little Rock from a railroad bridge to a pedestrian bridge; Riverside Park in Benton, which includes a community center, Boys and Girls Club, senior center and sports complex; and multiple water and wastewater treatment facilities. He is also proud of some of MCE’s more visible projects such as Dickey-Stephens Park, the Clin-



EMPTY NESTER. Hicks’ son, Max, is studying to be an engineer at the University of Arkansas, while daughter Maggie recently enrolled as a freshman there and will play short-stop for the Razorbacks softball team.

ton Library, Heifer International’s headquarters, Arkansas Children’s Hospital in Little Rock, and work done by the firm in Fayetteville.

Hicks enjoys designing water and wastewater systems, but those projects tend to be located outside the public view. Highly visible projects are special in a different way.

“You do get a satisfaction from being able to help clients that have real problems,” he said. “You know, they might have poor water quality because the septic systems are leaching into their wells, and you’re able to help them develop a public water system. So, you get a lot of satisfaction from hearing back from the people that you work for from that standpoint. But really, it’s also very satisfying to be able to work on a project that’s visible.”

The Riverside Park was one of those visible projects, and Hicks was well prepared for it. His daughter, Maggie, has been a serious softball player since a young age, so Hicks and his wife of 27 years, Kristi, have spent years visiting sports complexes in seven or eight states. He’s learned what works from both a player’s perspective and as an attraction for tournaments. Those lessons were incorporated into the park’s design.

Maggie left recently for the University of Arkansas, where she will play short-stop for the Razorbacks. Hicks’ son, Max, is studying to be an engineer there.

“They both just left and are at the U of A right now, so we have an empty nest,” Hicks said. “I’ve got to figure out some kind of hobby. But up until now, my hobbies have been following them around.”

In the News (Cont'd)

the firm recommended widening both sides by generally following the original centerline where possible. Doing so lowered costs by leveraging the existing pavement and embankment while reducing the amount of cut and fill through the rugged landscape.

In addition to the roadway widening and alignment improvements, Michael Baker completed the design for the staged replacement of three existing bridges and incorporated the design for a fourth bridge (designed by ARDOT) into the construction documents. Design also included a new turning lane and signalization at the Highway 128 intersection, which provides a much safer left-hand turning movement onto Highway 70.

"Widening Highway 70 presented a number of design challenges related to right of way and traffic maintenance that the Michael Baker design team successfully overcame to provide the highest quality improvements at a lower construction cost," said Stengel, vice president and office executive for Michael Baker's Little Rock office. "We are proud to have played such an integral role in this key project in central Arkansas, and we are excited about the improvements that this ARDOT project has made to both mobility and safety in this corridor."

This project represents the single largest project designed by Michael Baker International to be constructed in Arkan-

sas to date. The project's design was managed by Thornsberry. Byron Lawrence, P.E., was team leader for roadway design, while Harper served as team leader for bridge design.



Crow Construction is contractor for water treatment plant

Hope Water and Light commissioners and employees along with representatives of Crow Construction, CDM Smith Engineering, the Arkansas Department of Health, and other local officials held a groundbreaking ceremony for improvements underway at the Graves Foster Water Treatment Plant in Fulton.

The project consists of the addition of two new 750,000-gallon clearwells and a new finish water pump station. The improvements will help Hope Water and Light to continue to deliver high quality water both efficiently and effectively to its loyal customers. The project was de-

signed by CDM Smith Engineers, and Crow Construction is the general contractor.

Darr ACEC president and CEO; replaces retiring Raymond



Linda Bauer Darr is the new president and CEO of ACEC. She replaces the long-time president and CEO, David Raymond, who retired.

Darr spent the past four years as CEO of the American Short Line and Regional Railroad Association. She previously led the American Moving & Storage Association as CEO from 2007-14. She served as senior vice president for policy & communications at the American Bus Association from 2000-07. From 1998-2000, she was deputy assistant secretary, budget and programs at the U.S. Department of Transportation, where she managed a \$50 billion annual budget. Before that, she was vice president for international affairs at the American Trucking Associations.

She began her career with the engineering firm EG&G.

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MAN WITH PLANS. Fred Harper, ASPE president, designed bridges for the Highway 70 widening from Interstate 30 toward Hot Springs, a five-year, \$78.5 million project that is part of the state's Connecting Arkansas Program.

Harper: Never forget a P.E.'s responsibility

ASPE's new president says disasters are a reminder of engineers' important role, and what can happen when they compromise on quality.

The new ASPE president wants to use his office to remind his fellow engineers never to relax in discharging their responsibilities.

Fred Harper, P.E., manager of the bridge design group at Michael Baker International's Little Rock office, said recent disasters like the August bridge collapse in Italy are a reminder that engineers must do their jobs correctly to ensure the public is protected. That disaster killed 43 people.

"It's an opportunity to kind of check yourself and make sure that you're doing

really good work every day and not compromising on anything," he said.

Harper plans to use the columns he publishes in Arkansas Professional Engineer magazine as a tool for sharing those reminders with his fellow engineers. He'll also be working through the ASPE's local chapters to ensure that message is repeated.

Other high priorities for Harper include ensuring legislation helps rather than hinders the engineering profession. One Arkansas bill in 2017 would have specified that private individuals have a "right to engage in a lawful occupation" and let them challenge regulations at their own expense in a judicial or administrative proceeding. The bill's sponsor said it would not have repealed any licensure standards, but design professionals,

including engineers, argued that it would have made it easier for unlicensed individuals to do public safety-related work.

Those professionals successfully opposed the bill. Gov. Asa Hutchinson then created a Red Tape Reduction Working Group to study occupational licenses. Earlier this year, the group's two chairmen indicated that occupations dealing with public safety probably wouldn't be affected.

Still, Harper said engineers must remain vigilant lest that licensure legislation or others like it resurface.

"There's several legislative things that have come up over and over that we're going to have to keep a close watch on," he said. "We had several bills recently that were not helpful to the practice of engineering and really would have put us at a

disadvantage to do our best work. It's just something that a lot of people may not realize that don't have to put their name on that stamp. When you make yourself an engineer of record, you're putting yourself and your family on the line, so you want to be able to make the best decision for those kind of things."

Harper, 36, came to Michael Baker International five-and-a-half years ago when he had the chance to help start and manage the firm's bridge design group. That group has since grown to about 15 employees. The firm's biggest recent project was the widening of Highway 70 from Interstate 30 toward Hot Springs, a five-year, \$78.5 million project that is part of the state's Connecting Arkansas program. It involved widening a dangerous two-lane roadway with tight curves into a much safer four-line highway, and it included several bridges. The firm is preparing to connect Counts Massie Road to I-30. The project includes a diamond interchange with a large overpass bridge, as

well as widening a couple of other main lane bridges. That's a \$13-\$14 million job.

Harper said being a bridge engineer requires having many different skills.

"It sounds like kind of a real specialized niche, and in a way it is. But you also have to know a little bit about quite a few things because it's structural, but you've also got to know about roadway design, the geometric part of it, and hydraulics. And you get technical dealing with the soils and foundations, so you have to pull a lot of things together to do a bridge, so it always keeps you on your toes," he said.

Harper's first employer out of college was Garver, where he was a project engineer with the firm's bridge group. Among his notable projects there was the Two Rivers Bridge across the Little Maumelle River in Little Rock. He was on the design team and helped with a lot of the construction coordination with the contractor. That project has become a destination for walkers and cyclists and is one he's proud for his family to see.

"If you take your kids out there, they think you're Superman because you were involved in the bridge like that," Harper said.

It was while working at Garver that Harper became involved in ASPE. A.J. Khairi, P.E., that firm's bridge team leader, encouraged him to become involved in the Central Chapter. After attending meetings for about a year, he became an officer and eventually became president. After a couple of years off, he became a state officer and then moved up the ranks to state president.

Being president of the Central Chapter prepared him for his current role.

"That was a good experience just because it lets you practice some of those leadership skills, especially if it was early in your career like that, maybe before you're quite in that position with your full-time work," he said.

Harper was born and raised in Little Rock and attended what is now Little

Continues on next page

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Rock Christian Academy. At the time it was a small school in a shopping center with a graduating class of 27 his senior year. No one in his family had an engineering background, and he didn't really know what engineering was. However, he knew he had an aptitude for building things, as his summer jobs during high school and college were in residential construction. He still enjoys going to the field and seeing projects being built.

"It's very satisfying," he said of his work. "It's a similar kind of feeling that you get with building a home, really. And of course not in the same kind of physical way, but in your work you go through periods of really hard work and stress and demand, but then when you complete a project, it's a victory. And even if you didn't do the actual building, we're still doing the design, and we've built it virtually, and we're involved with all the little details. So you get that same kind of satisfaction when a project, either a highway or bridge, is completed, to see it come out just like you wanted it. You get that same kind of satisfaction just being able to use your gifts."

He enrolled at the University of Arkansas as a mechanical engineering major but later decided that civil engineering was a better fit. He worked at Garver for seven years before moving to Michael Baker International.

"It was definitely a good launching point to have this opportunity to come up, and it was a good chance for advancement for me to spread my wings a little bit and be able to lead a team," he said.



ENGINEER AND DAD. Harper relaxes in his office at Michael Baker International. On the wall is a picture drawn by daughter Elaine, 7, the fourth of his six children.

Michael Baker International's bridge design group isn't the only team he helps lead. He and his wife, Lauren, have six children ages 13 to 4. One of them, William, 9, is already displaying design and construction aptitude and may be a future engineer. The two have homeschooled their children and are still doing so with their two oldest. Lauren recently earned her registered nurse degree and works as

a neurosurgical intensive care unit nurse, so the two juggle the afterschool family responsibilities together. They are active as a family at the Christ the King church, where they participate in activities several times a week.

"It's a lot of work and a huge responsibility, of course, but we're looking forward to growing older and having a big family," he said.



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