

MAY/JUNE 2016

ENGINEERING INC.

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- >> **EEA Winners**
Recall the Thrill
of Triumph
- >> Setting Standards for
**Transportation
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- >> New Opportunities in
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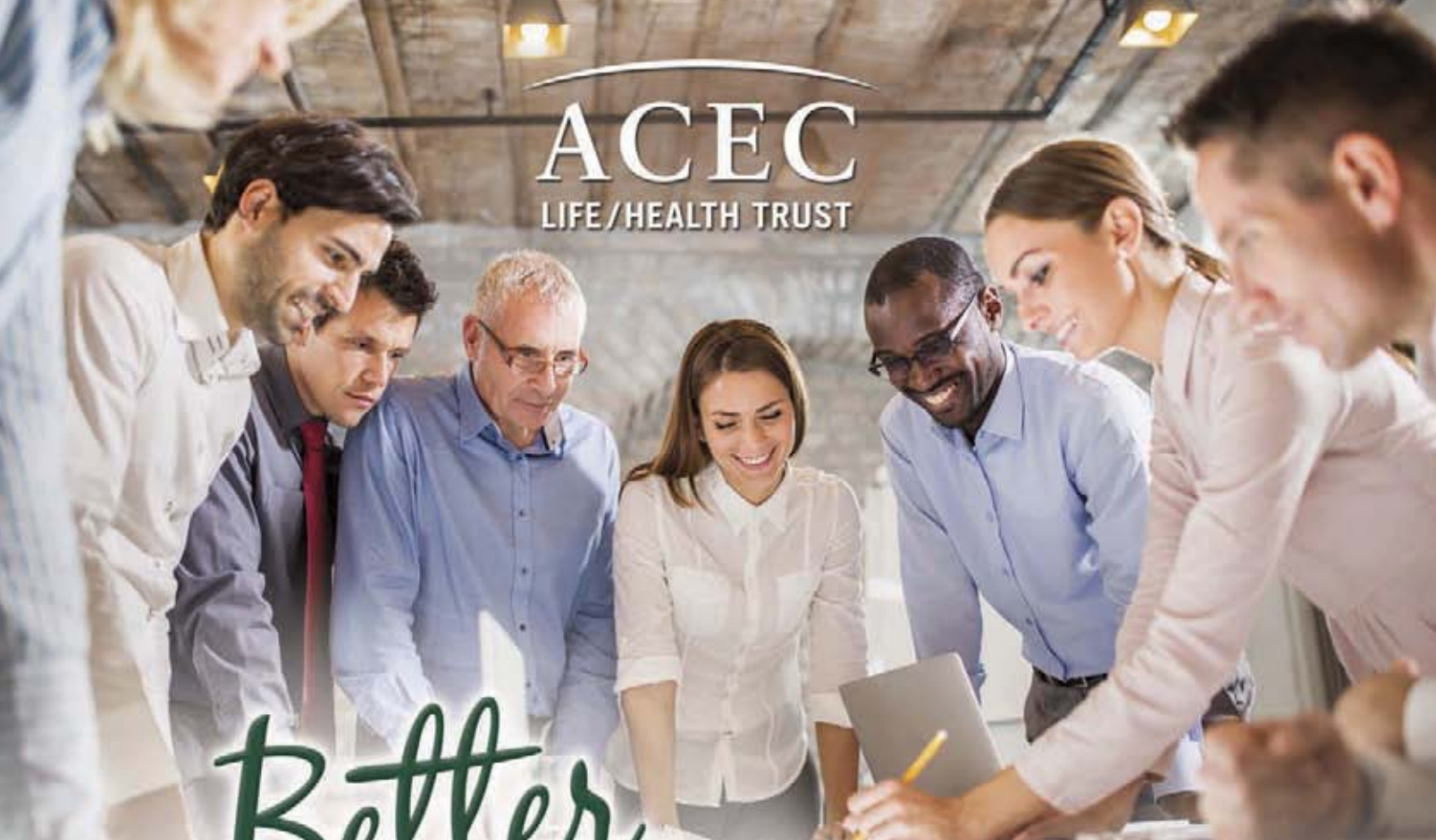
2016 ENGINEERING EXCELLENCE AWARDS

San Francisco Air
Traffic Control
Tower & Integrated
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From ACEC to You

Council's "Citizen Lobbyists" Score Big in April

Hundreds of ACEC convention attendees converged on Capitol Hill as "citizen lobbyists" in April to urge lawmakers to support two of the Council's most important legislative priorities—reauthorization of federal airport construction programs and comprehensive energy legislation; both were being debated on the floor of the Senate, and both passed by broad, bipartisan majorities.

The Council's citizen lobbyists were also successful in building support for pending legislation to delay implementation of Fair Labor Standards Act changes that would have increased costs for both the industry and government.

These results are excellent examples of what our members can achieve with a large, unified voice. See page 6 for advocacy progress.

Other highlights from the recent convention and Engineering Excellence Awards Gala, which celebrated top engineering achievements of the year, begin on page 8.

This issue also includes an analysis of how the fluctuating manufacturing/industrial market affects opportunities for Member Firms. (See page 4)

ACEC/PAC is again off to a strong start in 2016 to maintain its \$1 million a year pace. We strongly encourage members to support the PAC in this important election year. For more information and to contribute, go to the ACEC/PAC website at <http://www.acec.org/advocacy/advocacy-pac/>.

Now is also the time to mark your calendar for our Fall Conference at the Broadmoor in Colorado Springs, October 19-22 – where we'll address changing business practices, innovation and opportunities for our firms.



Peter M. Strub
ACEC Chairman



David A. Raymond
ACEC President & CEO



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Manufacturing/Industrial Prospects Fluctuate Along With Growth

The manufacturing/industrial sector has been one of the hottest markets for engineering firms over the past four years, growing at an average annual rate of more than 14 percent. Rising from the depths of the recession and fueled by low energy prices and swelling consumer demand, manufacturers have built new facilities and upgraded old ones at a furious pace.

Looking forward, that pace is not sustainable, but market analysts and firm leaders differ markedly on what the future holds for engineering firms working with industrial/manufacturing clients.

“Over the past few months, global economic uncertainty has clouded the picture,” says Sam Claassen, president and CEO of SEH in St. Paul, Minn. “Some of the factors that suggested continued strong growth—such as manufacturers coming back to the U.S.—aren’t as clear as they were, yet we know our population is growing and consumer demand is evident, which means we can also expect growth.”

That uncertainty can be attributed to a passel of conflicting trends, half of them stomping on the brake pedal and the other half pressing down on the accelerator.

Slowing Down

Perhaps the biggest drag on the manufacturing sector is the overall economy. With the nation’s gross domestic product growth forecast to hover below 3 percent annually through 2018, it’s hard to find a rationale for the manufacturing sector continuing to do substantially any better. In fact, the MAPI Foundation, the research affiliate of the Manufacturers Alliance for Productivity and Innovation, forecasts about 2.8 percent annual growth in manufacturing output through 2018.

Manufacturing capacity utilization rates are hovering around 78 percent, which is the historical average, suggesting there is not a lot of pressure to expand production lines.

Employment in the manufacturing sector has increased for the past four years to more

than 12 million, and manufacturers are struggling to find skilled workers in an economy with an unemployment rate of less than 5 percent.

And the re-shoring of American manufacturing production, which was propelled by falling energy prices and rising foreign labor rates, has slowed. This is because many global companies have already brought back the output that made financial sense and because of unfavorable currency fluctuations.

“In mid-2014, the U.S. dollar began to appreciate significantly against our major trading partners, as those economies began to weaken,” says Dodge Data & Analytics Senior Economist Richard Branch. “As the U.S. dollar gains strength, U.S. exports become less competitive in the global marketplace.”

Speeding Up

At the same time, forecasters can point to several reasons for optimism.

Consumer spending is the biggest driver in the U.S. economy, and American consumers

are spending again—and in record numbers.

“Consumer products manufacturing grows with the population,” says Justin Mitchell, business development manager for Burns & McDonnell’s Food and Consumer Products

Manufacturing Construction Put in Place

(Annual Percentage Growth Forecast)

2016	5%
2017	6%
2018	7%
2019	7%

Source: FMI

Group. “We’re expecting double-digit growth in our segment over the next two to three years.”

He adds that consumers are also demanding increasingly cheaper products and faster delivery, so manufacturers are looking to build more regional facilities. “Our customers are analyzing their supply chains, looking to put low-cost production facilities near large population centers. If they don’t already have one there, they’ll build a new one. And in places where they have an existing footprint under roof, we’ll work with them to expand production.”

In the global marketplace, many manufacturers are facing intense competitive pressure and are turning to technology to gain an advantage. As a result, many existing facilities have become functionally obsolete, forcing the companies to either retool or build new.

“They have to find continued efficiency to be profitable and maintain their desired level of growth,” says Larry Denton, president of the Process Group at Ghafari Associates in Detroit. “There’s a lot of opportunity for us there, helping them maximize their



production and throughput.”

Since Ghafari is one of the leading design firms for the automotive industry, Denton has developed his own unique gauge for the manufacturing sector's health.

“Last year was a record year for car sales, but more importantly it was a record year for pick-up truck sales,” he says. “That’s a great leading indicator. Every contractor has a pick-up truck. If they’re going out and buying a new one, they see a lot of construction and future growth ahead.”

Taking all these competing trends into account, Dave Calder, sector leader for industrial and manufactur-

ing at Stantec, expects to “see slow but consistent growth in manufacturing output. And growing slowly could be a good thing, because it might mean it’s sustainable.”

Industry Expertise

Many firms working with manufacturing clients credit the breadth of their professional services for their success in the sector.

“They’re looking for a total solution,” says SEH’s Claassen. “That works well for us because it gives us more control over the project to manage costs and timelines, and to accelerate delivery because time is money for industrial clients.”

Increasingly, that total solution includes expertise in the manufacturing process itself.

“Industry knowledge is huge,” says Burns & McDonnell’s Mitchell. “Seventy-five percent of the people in our group have been employed by the industry.”

At Stantec, Calder says, “We start with the client’s business needs—for example, to build a new product at a certain volume or to increase production on an existing line. We help them by designing the process, any facilities and infrastructure required, and also with the control systems that enable the manufacturing.”

“We have an extensive offering in *lean manufacturing*,” says Ghafari’s Denton. “The best levels of efficiency started with the automotive business, and we’re applying them to other fields, such as food service and health care.”

“Most of our customers are good with assembly operation,” he adds. “We’ve found that the biggest opportunities have been in how to get materials to their lines and then how to get the finished goods to the customers.”

Gerry Donohue is ACEC’s senior communications writer. He can be reached at gdonohue@acec.org.

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Legislative Action

Senate Passes Comprehensive Energy Bill

With the backing of hundreds of ACEC's "citizen lobbyists" during the Annual Convention, the U.S. Senate approved the Energy Policy Modernization Act of 2016 (S. 2012) on a bipartisan vote of 85 to 12.

Similar legislation cleared the House of Representatives last December, with leaders in both houses now focused on developing a final compromise bill. Not since 2007 has the Congress successfully passed, and the president signed, comprehensive energy legislation.

The Senate bill includes provisions to improve energy efficiency, as well as the federal permitting process for energy infrastructure, including transmission lines, natural gas pipelines, LNG facilities, and hydropower projects. The measure includes bipartisan language to develop model energy efficiency building codes for public and private buildings, and creates a multi-agency working group to examine the "energy-water nexus". The Administration has signaled support for the



JIM PARKIN / ALAMY STOCK PHOTO

Senate bill through statements of Department of Energy Secretary Ernest Moniz.

The Senate-passed bill will help the United States become a "global energy superpower," Senator Lisa Murkowski (Energy Committee Chairwoman) said during the Convention following the floor vote. "Our bill will help America produce more energy and it will help America save more energy."

Senate Approves ACEC-Backed FAA Reauthorization Bill

The Senate passed legislation to reauthorize Federal Aviation Administration (FAA) programs and airport funding, one of the advocacy objectives for ACEC "citizen lobbyists" during the Annual Convention and Legislative Summit. The final vote on the bill was an overwhelming 95-3.

The Senate bill features an ACEC-backed \$400-million boost in Airport Improvement Program funding for F.Y. 2017, a 12 percent increase. It also streamlines the Passenger Facility Charge (PFC) application process for all airports, but does not raise the existing cap on PFCs to help airports finance additional capital improvements.

The Council supported beneficial provisions in the bill to broaden the commercial utilization of unmanned aircraft systems (UAS). Many engineering and design firms are using or would like to use UAS for a wide array of services, including surveying, mapping, site monitoring, and facility inspections.

Action now turns to the House, where a six-year FAA reauthorization bill has been approved by the House Transportation & Infrastructure Committee. The House bill has stalled over a provision to remove air traffic control functions out of the FAA and create an independent, non-profit corporation to operate and modernize the air traffic system. It is not clear whether the House will proceed with the controversial proposal or recede to the Senate on a smaller scale bill.

The current extension of FAA funding and programs expires on July 15, 2016.

Council Weighs in Against New Regulatory Proposals

ACEC and coalition allies continue to push back against problematic new regulatory initiatives, including proposals that would impose new requirements on sick time for firms working for federal agencies, as well as payroll data affecting all firms.

The U.S. Department of Labor (DOL) has proposed that federal contractors provide their employees with 56 hours of annual sick leave, and mandates that firms report sick time accrued on a weekly basis.

ACEC raised concerns that the proposal would increase overhead costs and decrease their flexibility to design benefits packages that meet the employee needs.

The Council also submitted comments to the Equal Employment Opportunity Commission (EEOC) in opposition to a proposed requirement that all firms with 100 or more employees submit pay data from W-2 forms, along with the already mandated EEO-1 diversity reports.

ACEC asserted the requirement would create substantial administrative burdens and would be duplicative for federal contractors that already submit compensation analysis as part of their Affirmative Action Plans.



MARK WILSON/GETTY IMAGES

Senate Committee Clears Bill to Authorize New Corps Projects, Expand QBS

The Senate Environment and Public Works Committee approved the Water Resources Development Act of 2016, which includes over \$9 billion in project authorizations for Corps of Engineers projects and other water infrastructure enhancements.

In addition to new Corps projects, the bill covers improvements to the Safe Drinking Water Act State Revolving Fund (SRF) program, including broadening the scope of projects eligible for SRF funding. The measure also requires the use of Qualifications-Based Selection (QBS) for projects funded through the drinking water SRF program serving communities with populations over 10,000. ACEC lobbied for the QBS requirement, but has urged lawmakers to remove the population threshold.

The bill includes funding to address the lead contamination crisis in Flint, Mich., as well as for other communities impacted from the presence of lead pipes. The Senate Committee also included an ACEC-backed provision to create a dedicated trust fund to support water infrastructure projects, funded through fees collected through a voluntary labeling system on consumer products.

The measure is expected to go to the Senate floor for a vote in June. Companion House legislation is expected to be released in May.



The Water Resources Development Act of 2016 will address lead contaminated bodies of water like the Flint River in Flint, Michigan.



ACEC/Kansas leaders met with Senator Pat Roberts during the Annual Convention Hill visits. From the left: Clint Robinson, Black & Veatch; Senator Pat Roberts, David Haake, Henderson Engineers; Scott Heidner, ACEC/Kansas Executive Director and Mike Hess, HNTB.

ISSUES ON THE MOVE	WHAT'S NEXT
FAA Reauthorization	House floor action expected by summer
Water Resources Development Act (WRDA)	Senate floor vote in June
Energy Bill	Action on final conference report possible before August

Overtime Rule Released, Legislation Gaining Support



Senator Tim Scott (R-S.C.)

The Department of Labor has finalized significant changes to overtime rules under the Fair Labor Standards Act (FLSA). As of December 1, 2016, employees who earn less than \$913 per week/\$47,476 annually must be paid overtime if they work more than 40 hours in a week.

DOL originally proposed automatically updating the salary threshold annually, but instead it will be adjusted every three years, which was suggested by ACEC in its comment letter. In addition, ACEC expressed strong opposition to modifying the duties test for the executive, administrative, and professional exemptions, and the rule does not make any changes in this area.

Legislation that would require DOL to modify its overtime rule has gained strong support in the House and Senate. ACEC's citizen lobbyists asked their Members of Congress to back the legislation during the ACEC Annual Convention. S. 2707, authored by Senators Tim Scott (R-S.C.) and Lamar Alexander (R-Tenn.), and H.R. 4773, authored by Congressmen Tim Walberg (R-Mich.) and John Kline (R-Minn.), would put the new rule on hold and require DOL to conduct a more comprehensive analysis of economic impact.

For More News

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

2016 ACEC Annual Convention Taking the Lead on Advocacy and Business



An enthusiastic gathering of more than 1,300 ACEC members at the 2016 ACEC Annual Convention in Washington, D.C., focused on new business trends and opportunities, and pursuit of critical industry legislation.

Hundreds of ACEC “citizen lobbyists” met with their respective Capitol Hill lawmakers to build support for numerous industry issues such as reauthorization of federal airport construction

programs and a comprehensive energy package, along with tax and regulatory issues important to the industry.

ACEC/PAC raised a record \$271,700 from all PAC related activities during the

Senator Lisa Murkowski (R-Alaska) praised ACEC’s help in shaping the energy bill.





Fox News' Dana Perino addresses a packed Convention General Session.

Convention, staying on pace to raise \$1 million for 2016.

"I think the speakers were great and the options for education were very good," said Mak Knowles of HWC Engineering in Indianapolis. "It was quality all throughout and definitely worth the investment to attend."

"I thought the overall Annual Convention program was very good," said Jim Falvey of Arora Engineering in Boston. "I obtain the most value from the business development and networking standpoint. I do want to get more involved in ACEC."

"Dana Perino was great and I really enjoyed the Welcome Reception and Dinner," said Brad Graff, of

Cothren, Graff, Smoak Engineering, Inc., in Shreveport, La. "I was impressed with the Small Firm CEO Roundtable because of the issues that were discussed."

Senator Murkowski Praises ACEC for Energy Bill Guidance

"We're making history today," Senator Lisa Murkowski (R-Alaska) told ACEC members at the Annual Convention in Washington, D.C. last week. "In a couple of hours, we'll take the final vote to pass the first comprehensive energy bill since 2007."

The bill passed the Senate by a vote of 85-12.

"I want to thank ACEC for your involvement in help-

ing to shape this bill," said Murkowski.

Murkowski said "the bill is very robust in many, many ways. It allows us to move forward with policies that produce more energy, save more energy, and save more costs on energy, while being very strong from an environmental and an energy security perspective."

In the coming weeks, the Senate is slated to conference with the House to reconcile their bill with the one passed by the House last year.

FOX News Dana Perino: "It's good you have ACEC"

Former White House Press Secretary and current FOX News commentator Dana Perino emphasized that even during a presidential campaign and the ongoing Capitol Hill gridlock, important issues are still being addressed at regulatory agencies.

"It's good that you have a leader in ACEC to navigate those agency issues that mean so much to your members," she told Convention attendees.

Perino also predicted that the ongoing shift in national demographics will soon lead to unprecedented changes in the nation's political landscape. "Expect the unexpected," she says.

Daniel Pink: Like it or Not, Engineers Also Have to Sell

World-renowned business author Daniel Pink underscored the need for engineers to embrace data-driven sales strategies if they are to succeed in today's evolving marketplace.

"Like it or not we're all in sales now," said Pink. "Unfortunately, the extraordinarily educated or technically

skilled too often are in the 'or not' category. But just ask yourselves 'what percentage of your work involves convincing someone to give up something they value for something you value?'"

To successfully sell in today's evolving marketplace, Pink advises engineers to thoroughly understand the client's point of view; use client terminology instead of industry jargon; and provide a client with examples of how others have succeeded after adopting an engineer's proposals.

Strub Succeeds Christie as ACEC Chairman

TranSystems Principal Peter Strub became 2016-2017 ACEC Chairman, succeeding Ralph Christie of Merrick & Company.

New members of the 2016-2017 Executive Committee are: Chair-elect Sergio "Satch" Pecori, president/CEO, Han-son Professional Services; Mary Erchul, principal, Ghi-



ACEC President and CEO Dave Raymond highlighted Council achievements over the past year during his state of ACEC address to the Board of Directors.

Politico Founder Jim Vandehei (right) moderated a panel discussion with (left to right) Representatives Rodney Davis (R-Ill.), Sean Patrick Maloney (D-N.Y.), and Bruce Westerman (R-Ark.) about partisan gridlock on Capitol Hill. The Congressmen noted several causes of the increased polarity, including the rise of safe seats through redistricting and the intense scrutiny of Representatives on social media, but added that infrastructure is one of the opportunities for bipartisanship because the deteriorating condition of the nation's roads and water systems are of concern to all constituents.



Best-selling business author Daniel Pink urged engineers to embrace the science of selling.

radelli Associates; Joel Goodmonson, EVP, Architectural Engineers; Thomas Mosure, president/chair, ms consultants; and John Nelson, CFO, Wright-Pierce.

They join current members: Lee Cammack, president/CEO, J-U-B Engineers; Philip Houser, principal, Benesch; Gregg Spagnolo, partner, North Arrow; and

Dave Raymond, president/CEO, ACEC. ACEC/Massachusetts Executive Director Abbie Goodman will serve as the NAECE Representative.

Former State DOT Secretaries Offer Strategies to Increase Highway Funding

Three former state DOT secretaries, who now work

for Member Firms, shared their unique perspectives on how the industry can better partner with transportation agencies and win increased funding at the state level.

WSP | Parsons Brinckerhoff's Paula Hammond, who was Washington DOT secretary, said that with the Highway Trust Fund dwindling and the federal gas tax losing its purchasing power, "the states have been stepping up" to provide additional sources of revenue. In those states, she said the engineering industry allied with other business groups—including labor and environmental groups—to create a united front to sway tax-averse legislators.

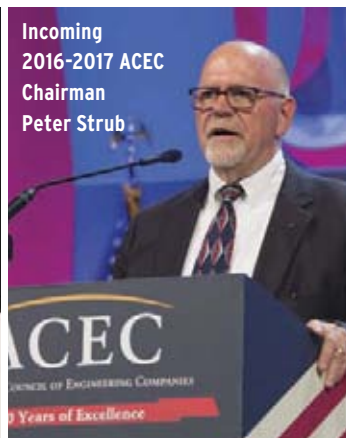
Former PennDot Secretary Barry Schoch, who is now

with McCormick Taylor, recommended that firms focus on educating leaders in other industries, especially large employers, about the importance of infrastructure investment, because they can be useful advocates with state legislators.

Anath Prasad, who headed the Florida DOT and is now with HNTB, said that state DOTs are at a crossroads and Member Firms can help them to make transformative changes. "DOTs need to think of themselves as economic development agencies, as job-creating agencies," he said. The private sector brings innovation and efficiency in partnering with DOTs to deliver projects. "When it comes to winning funding, that's a message that sells."



Outgoing ACEC Chairman Ralph Christie



Incoming 2016-2017 ACEC Chairman Peter Strub

Paula Hammond of WSP | Parsons Brinckerhoff (left), Barry Schoch of McCormick Taylor (center), and Ananth Prasad of HNTB, shared insights from their tenures as state DOT secretaries.



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Mike DelGuidice and BIG SHOT, featuring current members of Billy Joel's band, entertained attendees at the Welcome Reception.

2016

Engineering Excellence Award Winners

The 2016 Engineering Excellence Awards Gala—known as the “Academy Awards” of the engineering industry—showcased 151 ACEC Member Firm achievements from the United States and throughout the world.

A panel of 29 judges, representing a wide spectrum of built environment disciplines, selected 24 projects for top awards—16 Honor Awards, eight Grand Awards and the Grand Conceptor Award, for the year’s most outstanding engineering achievement.

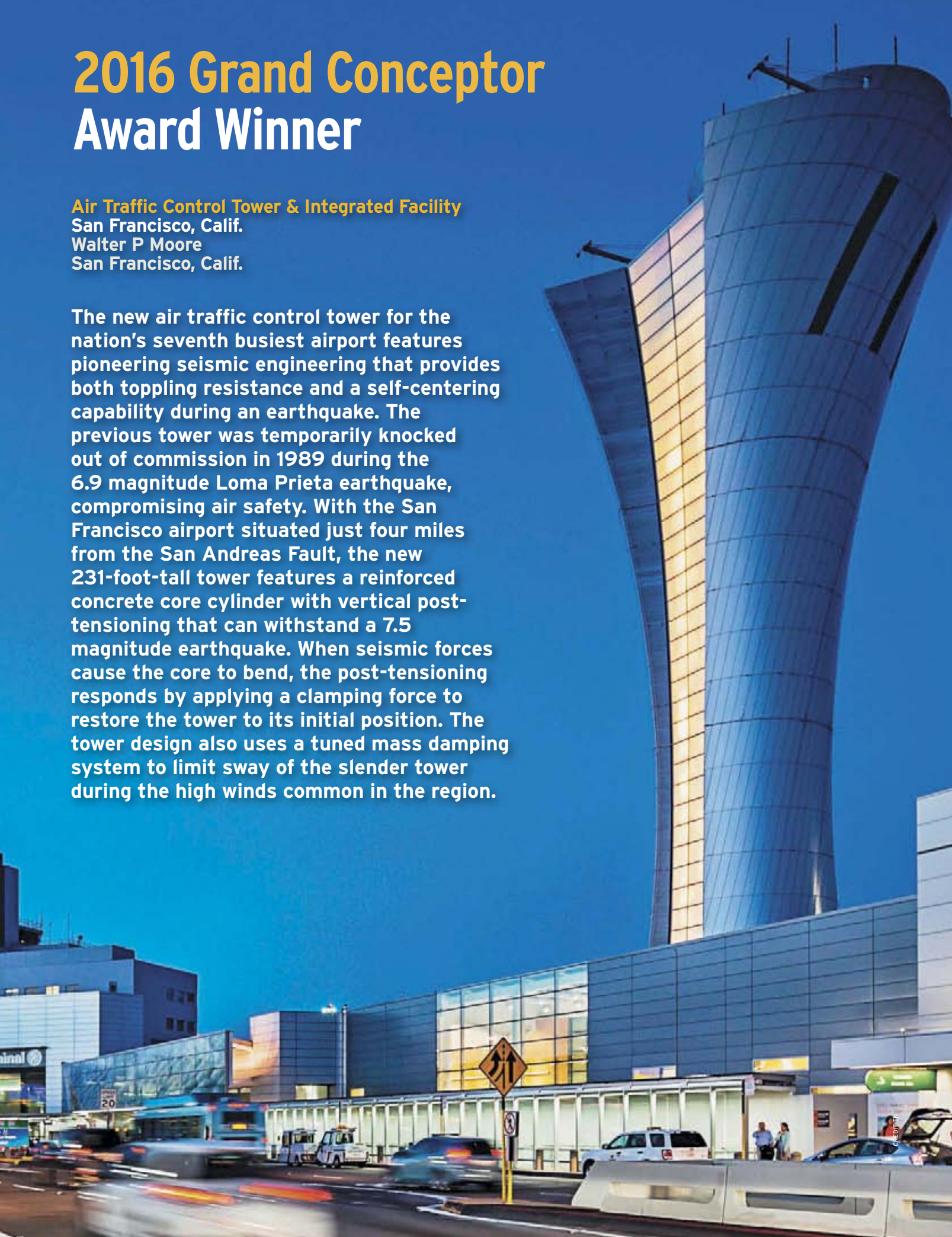
Members of the 2016 Grand Conceptor Award-winning team are from the left: Steve White of Fentress Architects; and from Walter P Moore: Laura Whitehurst, Rafael Sabelli (holding award), Dilip Choudhuri, Blair Hanuschak, and Edwin Friedrichs.



2016 Grand Conceptor Award Winner

Air Traffic Control Tower & Integrated Facility
San Francisco, Calif.
Walter P Moore
San Francisco, Calif.

The new air traffic control tower for the nation's seventh busiest airport features pioneering seismic engineering that provides both toppling resistance and a self-centering capability during an earthquake. The previous tower was temporarily knocked out of commission in 1989 during the 6.9 magnitude Loma Prieta earthquake, compromising air safety. With the San Francisco airport situated just four miles from the San Andreas Fault, the new 231-foot-tall tower features a reinforced concrete core cylinder with vertical post-tensioning that can withstand a 7.5 magnitude earthquake. When seismic forces cause the core to bend, the post-tensioning responds by applying a clamping force to restore the tower to its initial position. The tower design also uses a tuned mass damping system to limit sway of the slender tower during the high winds common in the region.



GRAND AWARDS



Biosolids Management Program Washington, D.C. CDM Smith, Fairfax, Va.

Trailblazing upgrades to a wastewater treatment plant now allow recovery of both energy and nutrients from wastewater, while at the same time reducing operating costs. Enhancements to the District of Columbia's advanced water treatment plant, which serves more than 2 million residents, included installation of four 3.8-mgal anaerobic digesters and the world's largest Cambi thermal hydrolysis process (THP) system, which produces Class A biosolids for reuse as well as biogas for plant operation heat and power. The new system has already reduced truck disposal of biosolids by half, while generating approximately 10 megawatts of electricity—sufficient to meet one-third of the facility's demand.



WaterHub at Emory Atlanta, Ga. McKim & Creed, Raleigh, N.C.

A beautiful greenhouse surrounded by artful landscaping in a university setting doubles as a revolutionary water reclamation and reuse facility. To mitigate numerous university water supply challenges, the project team customized an ecological water and reuse system that is the first of its kind in North America. The system comprises an "upper site" containing a 3,000-square-foot low-energy/high-efficiency glasshouse with an odorless hydroponic treatment system, and a "lower site" containing seven concrete processing tanks up to 25 feet underground topped by ornamental landscaping. The system treats up to 400,000 gallons daily, recycling the equivalent of two-thirds of the university's wastewater production for campus heating and cooling, and significantly reducing the campus water usage. Over the past year, the university has saved 30 million gallons of potable water and is expected to save millions of dollars in water utility costs over a 20-year period.





Manhattan Bridge Rehabilitation of Cables and Suspenders
 New York, N.Y.
Weidlinger Associates, Inc., New York, N.Y.

Innovative engineering produced a more reliable and efficient method to rehabilitate old and corroded cables and suspender ropes on suspension bridges. Tasked with replacing the Manhattan Bridge's 1,256 suspender ropes—many 65 to 80 years old with substantial deterioration—the project team used advanced vibrational testing to determine rope tension. They then cleaned and rewrapped main cables with an elastomeric membrane to resist water, chemicals, temperature extremes and ultraviolet light. The rehabilitation was performed without any noticeable impact on traffic, which averages more than 500,000 commuters a day. The new process is expected to become a standard tool for suspension bridge cable maintenance throughout the nation.



No. 7 Line Subway Extension
 New York, N.Y.
WSP | Parsons Brinckerhoff
 New York, N.Y.

Resourceful engineering delivered a new subway extension and state-of-the-art station into the congested landscape of Midtown Manhattan's Far West Side. The \$2.4 billion, 1.5-mile extension of New York City Transit's No. 7 Line from Times Square was designed to support the rapidly developing Hudson Yards area. The project team used innovative ground freezing technology to improve tunnel boring through mixed-wet soil and loose rocks. The project includes the strikingly modern 34th Street-Hudson Yards Station, which maximizes natural ventilation and daylight, reduces reliance on non-renewable energy sources and contains a 36-foot-wide platform—the widest column-free platform in the New York City subway system. The subway extension serves as a model of how to develop ultramodern rail infrastructure within a tight urban setting.

GRAND AWARDS

The 606 V

Chicago, Ill.

Collins Engineers, Inc. & TranSystems

Chicago, Ill.

Creative engineering transformed a century-old artifact of Chicago's industrial heritage into the nation's longest elevated park. The project team repurposed unused 20th century rail infrastructure for 21st century needs to create six ground-level parks connected by a 2.7-mile-long elevated multi-use path. The project features innovative geometric path design and rehabilitation of thirty-eight bridges. It also included six miles of new retaining walls, six new access ramps, and drainage and hydrology for the new trail and park system. With multiple access points, elevation above city traffic and a park environment, The 606—named for the first three digits shared by all Chicago ZIP codes—enhances the social and economic vitality of the surrounding neighborhoods.



Harnessing Geothermal Power for Airports >

Maine, N.Y.

McFarland-Johnson, Binghamton, N.Y.

A unique collaboration with Binghamton University students produced a first-of-its-kind geothermal snow-melt system for airport aprons. Airports have long sought a more efficient method of snow and ice removal—salt can't be used because it's too corrosive to aluminum aircraft, and sand can damage aircraft engines. The solution was an innovative system of geothermal pumps and underground tubing that produces radiant heat, while reducing labor and operating costs and providing abundant snow-melting capability. The project team had to find the optimal balance between geothermal heating efficiency and the thickness of the apron's concrete slab and its ability to withstand aircraft weight. The project reduces snow removal time, lessens travel disruptions and improves passenger safety.



Rehabilitation of Gilboa Dam Gilboa, N.Y. **Gannett Fleming/ Hazen and Sawyer (Joint Venture)** New York, N.Y.

Inventive engineering achieved a successful renovation of the 90-year-old Gilboa Dam, located in the Catskill Mountains and providing about 14 percent of the water supply for more than 9 million residents in New York City and upstate communities.

The rehabilitation used cutting-edge rock anchor technology to redesign the dam's spillway. A creative snowpack offset system to capture snowmelt—a frequent cause of regional flooding—was incorporated to protect more than 8,000 downstream residents. Delivering 1.2 billion gallons of water per day, the dam is part of the largest gravity-fed, unfiltered water supply system in the world.

HONOR AWARDS



Bay Tunnel
Menlo Park to
Newark, Calif.
**McMillen Jacobs
Associates**
San Francisco, Calif.

A new tunnel under the San Francisco Bay provides a much-needed upgrade to the regional water supply system that originates in Yosemite National Park and serves 2.6 million customers. The five-mile tunnel replaces an aging water pipeline infrastructure built in the 1920s. The project team overcame challenges of tunneling through unstable sandy/silty soils and near underground structures sensitive to ground disturbances. Situated between two major faults and considered a critical lifeline facility, the tunnel is designed to be operational within 24 hours following a major earthquake. The first-of-its-kind tunnel stands as an exemplar for future water system upgrade projects.



Aspen Art Museum
Aspen, Colo.
KL&A, Inc., Golden, Colo.

A strikingly imaginative use of wood in its structural design is a prominent feature of the new Aspen Art Museum. Designed by Pritzker Prize-winning architect Shigeru Ban, the 33,000-square-foot museum features a unique display of wood in form, fabrication and construction. The project team incorporated spruce and micro-laminated birch plywood, optimizing wood grain direction to relieve local stresses. The building's signature is the roof structure—a space frame laid out on a four-foot grid—that features curving wood members, undulating up and down between straight chords with minimal touch between the elements, and with no steel components of any kind. Structural connections are almost entirely fully threaded wood screws. The museum's imaginative geometry and materials represent a showpiece for the potential of wood in structural construction.





Fish Lift System for Lake Sturgeon Passage
Menominee, Mich.
Kleinschmidt Associates
Pittsfield, Maine

The nation's first fish lift for lake sturgeon restores access for the threatened species to a spawning habitat previously blocked by the hydroelectric Menominee Dam. The project team redesigned an unused portion of the dam into a 34-foot steel tower with an entrance channel for the collection of fish. A steel hopper lifts the fish to a floor where they are discharged into a sorting tank and held for truck transport to upstream spawning areas. The new fish lift enables lake sturgeon to access 21 miles of river previously blocked by the dam. The design also includes a state-of-the-art sorting facility enabling monitoring of desired fish, removal of invasive species, stopping the passage of harmful pathogens upriver, and the return of nontargeted species downstream.



The Willow School: Health, Wellness & Nutrition Center
Gladstone, N.J.
Loring Consulting Engineers, Inc.
Princeton, N.J.

A new 22,000-square-foot education center sets new standards as the first U.S. education building to achieve both LEED Platinum and Living Building Challenge certifications. Numerous energy-saving processes combined with a 160kW roof-mounted photovoltaic system allow the facility to produce more power than it uses, with the excess energy fed back to the electric utility grid. Newly constructed wetlands clean and filter wastewater before returning it to the aquifer for recharge. Rainwater is reclaimed for use in bathrooms and to irrigate the building's gardens. The facility is a model for future institutional projects seeking similar sustainability goals.



Florida Onsite Wastewater Nitrogen Reduction Strategies
Tallahassee, Fla.
Hazen and Sawyer, Tampa, Fla.



Using groundbreaking research, the project team developed a unique and powerful nitrogen reduction system specifically for small-scale onsite wastewater systems (OWS)—commonly known as septic systems. Florida's more than 2.7 million OWS are seen as significant contributors to excess nitrogen in the state's watersheds, triggering significant water-quality issues. The project team conducted extensive testing to create unique passive nitrogen reduction systems (PNRS) specifically for OWS. Full-scale prototype PNRS consistently removed over 95 percent of influent wastewater nitrogen at a significantly less cost per pound than currently available treatment technologies. This innovative technology redefines the role of OWS and can be a permanent wastewater management solution in nitrogen-sensitive watersheds.

HONOR AWARDS

Manchester Stormwater Park V

Manchester, Wash.

Parametrix, Seattle, Wash.

A previously abandoned brownfield now doubles as an aesthetically pleasing recreation site and a revolutionary stormwater management system that eliminates heavy winter rain flooding. As the Puget Sound area's first stormwater park, and one of only a few such combined water treatment/recreation facilities in the U.S., the park treats stormwater from roads, parking lots, and commercial and residential areas through a scientific calibration of soil and plants. Stormwater is channeled to the new park through distribution channels positioned to evenly deliver the water onto treatment beds. The beds' filter media and plants clean the runoff using filtration and absorption. The treatment cells are designed to treat flow magnitudes well over 2,000 GPM and remove at least 91 percent of pollutants from runoff before it reaches Puget Sound.



Target Field Station A

Minneapolis, Minn.

Short Elliott Hendrickson Inc.

St. Paul, Minn.

A new world-class, multimodal transit center in the heart of downtown Minneapolis sets new standards for sustainability. In addition to housing an elevated light rail, a promenade and two levels of a public plaza, the LEED-certified project features the first-ever, year-round stormwater and snowmelt runoff capture and reuse system in Minnesota. The system diverts snowmelt and stormwater runoff from the upper-level plazas, green roofs and light rail station into large cisterns and then routes it to a nearby waste-to-energy facility for treatment and reuse in a variety of industrial processes. Combined with tree trenches, landscaped bio retention planters and two large green roofs, the system captures and reuses approximately 3 million gallons of stormwater runoff per year.

I-485/I-85 Interchange >

Design-Build

Charlotte, N.C.

STV, New York, N.Y.

Innovative renovations to a major traffic interchange improved access, efficiency and motorist safety, while also saving more than \$30 million in projected costs. To incorporate much needed changes to the existing I-485/I-85 interchange—part of the I-485 Outer Loop of Charlotte, N.C.—the project team incorporated a rare “turbine” interchange design to replace the previous four-level structure. The design features circular lanes that take left-turning traffic around a central bridge. The project required widening two miles of I-85 to accommodate additional ramp lanes, widening/construction of 1.4 miles of I-485, and construction of eight ramps/loops and 18 precast concrete girder bridges for the interchange. This unique design has made the Outer Loop a safer and more accessible thoroughfare for 180,000 daily motorists.



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IH 635/The LBJ Managed Lanes
Dallas, Texas
Bridgefarmer & Associates, Inc.
Dallas, Texas

Imaginative geometric engineering doubled the capacity of the third most congested highway in Texas, while adhering to mandates not to exceed the corridor's current dimensions. To increase capacity of the 270,000-vehicles-per-day highway corridor, the project team designed new general purpose lanes as bridges that partially cantilever over managed lanes supported by a column at the center median. Additionally, the project team reconstructed the freeway's eight existing general purpose lanes and added six new managed (toll) depressed lanes below in an excavated trench section—an alternative that saved the project over \$400 million. Completed under strict construction limitations, the project is a testament to transportation engineering ingenuity.



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State-of-the-Art Nitrogen Upgrade Program
Alexandria, Va.
CH2M, Herndon, Va.

Revolutionary water treatment plant upgrades now allow effective nitrogen removal from wastewater to meet new and stringent nutrient limits designed to protect the Potomac River and Chesapeake Bay. To adhere to new discharge restrictions, the project team designed an 18-million-gallon nitrogen maintenance facility featuring emerging for enhanced biological process capacity. The project team creatively located the facility's process piping, tankage, equipment and other project components underground and disguised the underground structure with a public-use athletic field. The utility is the first in the U.S. to implement a full-scale mainstream deammonification system, and the first utility in the world to use this technology to meet such strict low-nitrogen limits.

Tilikum Crossing, Bridge of the People ✓
Portland, Ore.

T.Y. Lin International and HNTB Corp., Olympia, Wash.

Spanning Portland's Willamette River, the new bridge is the nation's largest transit-only bridge and addresses the region's escalating traffic congestion. Located in a high-seismic region, the 1,720-foot-long, three-span superstructure features two landside piers, two in-water piers and two dramatic 180-foot-tall pentagonal-shaped stay-cable towers. A 31-foot-wide transit way between the tower legs accommodates two lanes of transit track and two 14-foot-wide multi-use paths for pedestrians and cyclists. Scenic enhancements include concrete finished in artistic, complex shapes and angles and an innovative "mood" lighting system that changes colors based on daylight, the river's speed, height, discharge rate and water temperature.



HONOR AWARDS

CREATE P1 – Englewood Flyover V

Chicago, Ill.

TranSystems/Benesch, Schaumburg, Ill.

Innovative transportation engineering alleviated major congestion at a rail-to-rail intersection, dramatically improving safety and air quality. Often compared to a crossing of two interstate highways using a stop sign, the rail intersection each day handles 80 commuter trains, 46 freight trains and 14 Amtrak passenger trains. The project team's solution was to incorporate a grade separation featuring a pioneering railroad flyover. The 2,150-foot-long, 26-span flyover includes new bridges over five city streets, removal and closure of two viaducts and construction of over 3,000 feet of retaining walls. The project also required adjusting a 1.2-million-pound bridge by jacking it up three feet on the north end and eight inches on the south end to be set on a new gradient without affecting the integrity of the structure.



Bay Bridge Cable Dehumidification ^

Anne Arundel and Queen Anne Counties, Md.

AECOM, Baltimore, Md.

Groundbreaking engineering created a new cable dehumidifying system to address dangerous corrosion on suspension bridge cables. For this first-ever application on a North American bridge, the project team designed a dehumidification system for Maryland's Bay Bridge, which rises 186 feet over the Chesapeake Bay. The system continuously injects dry air into the bridge's main support cables to remove built-up moisture and maintain a dry, noncorrosive environment. More than 750 gallons of water were removed from cables on the westbound bridge and over 100 gallons from the eastbound bridge. The success of this system has prompted several other similar cable dehumidification projects nationwide.

Bruce C. Bolling Building

Boston, Mass.

Arup, Cambridge, Mass.

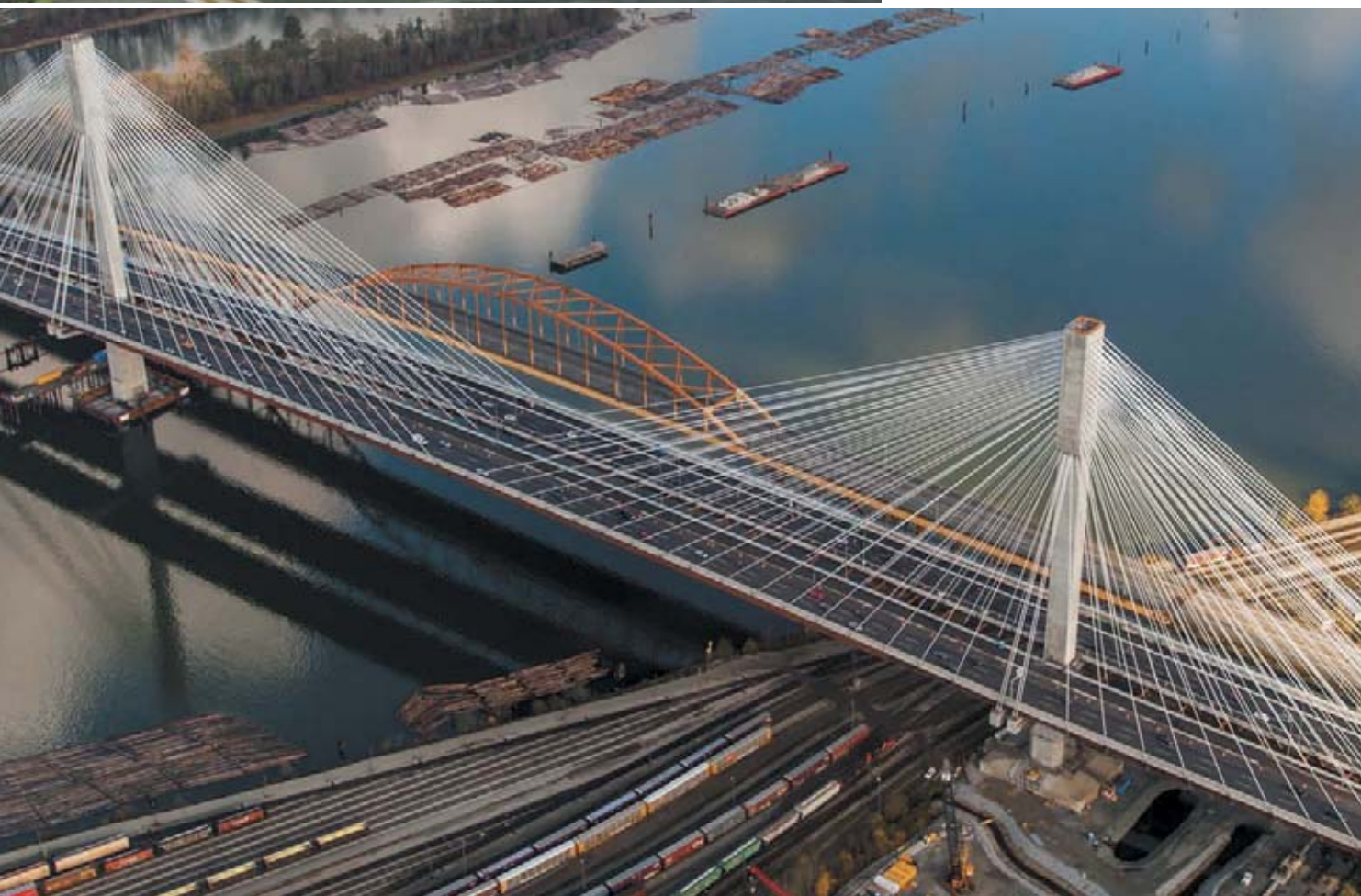
Imaginative engineering was used in a new state-of-the-art, 215,000-square-foot headquarters for Boston Public Schools. To incorporate the character of the historic but severely deteriorated buildings it replaced, the project team completely removed the interiors to create new floor plates, leaving only the existing walls. Historic facade skins were secured with epoxy anchors and connections to supporting steel as new construction occurred. The completed new headquarters includes a green roof, glazed exterior walls to allow ample light, daylight sensors to calibrate lighting, along with state-of-the-art office, retail, civic spaces, and community meeting areas and stands as an example of how new development can maintain a region's rich culture and history.





**Daniel K. Inouye Fighter Squadron
Operations Aircraft Maintenance Facility**
Joint Base Pearl Harbor-Hickam, Hawaii
Burns and McDonnell, Honolulu, Hawaii

A new ultramodern aircraft squadron maintenance facility provides state-of-the-art service for the world's only active fifth-generation fighter. A model of sustainability, it is only the second LEED Platinum-certified U.S. military hangar. Innovative systems reduce net energy savings 75 percent and water consumption by nearly 50 percent. Solar power generated through roof-mounted photovoltaic cells and parking canopy offset electrical costs by 60 percent. The hangar provides a column-free, space-saving tail-to-tail aircraft configuration with vertical lifting doors featuring translucent panels to maximize daylight. With constrained federal budgets and increasing energy costs, the project is a model for reducing costs and enhancing performance at federal facilities.



Port Mann Bridge Highway 1 Improvement
Vancouver, B.C.
T.Y. Lin International, Olympia, Wash.

The new Port Mann Bridge in Vancouver, British Columbia, is North America's second-longest cable-stayed bridge, and one of the world's widest, with a 170-foot-wide deck and 10 lanes, replacing the previous five-lane bridge. The 2,700-foot-long bridge features two distinctive 530-foot-tall single-mast concrete towers. There is also a multi-use path for pedestrians and cyclists. The new bridge reduces motorist travel time by more than 50 percent and enables Vancouver to realize the full benefits of a state-of-the-art structure that doubles traffic capacity, while meeting the most stringent seismic criteria.

NATIONAL RECOGNITION AWARD WINNERS

FIRM NAME	PROJECT NAME	FIRM NAME	PROJECT NAME
ACEC/ALABAMA		ACEC/ILLINOIS	
Barge, Waggoner, Sumner & Cannon, Inc.	Carpenter Technology Specialty Steel Mill	Benesch	Rollins Road Gateway The 606
Consulting Construction Engineering	“Off the Grid” Analysis of Sustainable Energy Design and Application	Collins Engineers, Inc./ TranSystems	O’Hare South Air Traffic Control Tower
Krebs Engineering, Inc.	Biosolids Improvements for Energy Recovery	exp	New UV Water Treatment System
Whorton Engineering, Inc.	Live Fire Shoot House	Greeley and Hansen	Red/Purple Modernization Corridor Program
ACEC/ALASKA		CWC Transit Group—Jacobs Engineering Group Inc./ CDM Smith/Wight & Company	First Illinois Diverging Diamond Interchange, Marion
Hanson Professional Services, Inc.	Glenn Highway Capacity Improvements	Thouvenot, Wade & Moerchen, Inc.	CREATE P1 – Englewood Flyover
ACEC/ARIZONA		ACEC/INDIANA	
AECOM	La Cholla Boulevard: Magee Road to Overton Road	Commonwealth Engineers, Inc.	Richmond East Side Interceptor Replacement Phase III
ACEC/CALIFORNIA		ACEC/IOWA	
AECOM	Urban Levee Evaluation Project	Burns & McDonnell	Ottumwa Tier 1 Project
Cornerstone Structural Engineering Group, Inc.	R. B. Oliver Bridge Replacement	Stanley Consultants, Inc.	Credit Island Lodge Reconstruction
Cornerstone Structural Engineering Group, Inc.	San Francisco Zoo – South American Rain Forest Exhibit	WHKS & Co.	U.S. 34 Ramp Bridge Emergency Repair
HNTB Corporation	Levi’s Stadium	ACEC/KANSAS	
Mark Thomas & Company, Inc.	I-280/I-880/Stevens Creek Boulevard Interchange	Black & Veatch	Headquarters Microgrid
McMillen Jacobs Associates	Bay Tunnel	Shafer, Kline & Warren	Pershing Road Lift Station
STV	South Bay Bus Maintenance Facility Expansion	TranSystems	Sustainable Reconstruction of KU Parking Lot 54
Walter P Moore	SFO Air Traffic Control Tower & Integrated Facility	WSP Parsons Brinckerhoff	U.S. 54 Viaduct Repair/ Rehabilitation
ACEC/COLORADO		ACEC/KENTUCKY	
CTL Thompson, Inc.	The Regency Athletic Complex at MSU Denver	CDM Smith	Alumni Drive Improvements
KL&A, Inc.	Aspen Art Museum	EA Partners	U.S. 68 Bourbon/Nicholas Counties
Merrick & Company	New Crude Distillation Unit	HMB Professional Engineers, Inc.	East Fork Indian Creek Stream Restoration
Merrick & Company	Data Fusion Predicts Habitat Quality	Palmer Engineering Company, Inc.	New U.S. 460
Olsson Associates	Aerial Survey of Kokopelli Trail	Qk4	Belknap Connector
RMG-Rocky Mountain Group	Broadmoor Cloud Camp	ACEC/MAINE	
ACEC/CONNECTICUT		Kleinschmidt Associates	Menominee Fish Lift System for Lake Sturgeon Passage
Michael Baker International, Inc.	CTfastrak Bus Rapid Transit System	ACEC/MARYLAND	
Urban Engineers, Inc.	Complete Streets Master Plan for Downtown New Britain	AECOM	Bay Bridge Cable Dehumidification
Wright-Pierce	Water Pollution Control Facilities Upgrade	Gannett Fleming	Towson Finished Water Reservoir
ACEC/FLORIDA		Pennoni	ATEF High-Speed Test Track Traffic Control System
CH2M/King Engineering Associates, Inc.	Northwest Solid Waste Transfer Station	Whitman Requardt & Associates	26th Street Emergency Repair and Wall Reconstruction
Finley Engineering Group, Inc.	Section 5 Palmetto SR 826/836 Interchange	Whitman Requardt & Associates	Ballenger-McKinney Wastewater Treatment Plant Expansion
Hazen and Sawyer	Onsite Wastewater Nitrogen Reduction Strategies	Whitman Requardt & Associates	Montebello Plant 2 Finished Water Reservoir
HNTB Corporation	SunRail Phase 1	Whitney Bailey Cox & Magnani	Frederick Avenue Bridge over Gwynns Falls & CSX Railroad
Kimley-Horn and Associates, Inc.	Tallahassee Regional Transportation Management Center	ACEC/MASSACHUSETTS	
Walter P Moore	Citrus Bowl Transformation	Arup	Bruce C. Bolling Building
ACEC/GEORGIA		Collins Engineers, Inc.	Geo-Synthetic Reinforced Soil – Integrated Bridge System
Walter P Moore	National Center for Civil and Human Rights	Fay, Spofford & Thorndike	Kenneth F. Burns Memorial Bridge Replacement
ACEC/HAWAII		Simpson Gumpertz & Heger Inc.	China Pavilion at 2015 World Expo
Burns & McDonnell	Daniel K. Inouye Fighter Squadron Aircraft Maintenance Facility	ACEC/METROPOLITAN WASHINGTON	
Burns & McDonnell	SPIDERS Phase III	AECOM	RiverSmart Washington Planning & Design
Yogi Kwong Engineers	Stream Bank Bluff Protection and Stabilization	Alpha Corporation	Smithsonian Mathias Lab Expansion

FIRM NAME	PROJECT NAME	FIRM NAME	PROJECT NAME
CDM Smith CDM Smith CH2M	Biosolids Management Program Tingey Street Diversion Sewer State-of-the-Art Nitrogen Upgrade Program	Cameron Engineering & Associates	Long Island Tidal Wetlands Trends Analysis
HNTB Corporation	95 Express Lanes	DeSimone Consulting Engineers Dewberry Distinct Engineering Solutions, Inc.	170 Amsterdam Carmine Carro Community Center Rockaway Boardwalk Reconstruction Amtrak Sunnyside Yard Master Plan
ACEC/MICHIGAN Byce & Associates, Inc.	Bell's Brewery, Inc. New Bio-Energy Facility	Gannett Fleming/ WSP Parsons Brinckerhoff Gannett Fleming/Hazen and Sawyer GZA	Rehabilitation of Gilboa Dam OneNYC Public Waterfront Esplanade and Park Mastic Volunteer Ambulance – New Headquarters Addition
Fleis & VandenBrink Engineering, Inc. HNTB Corporation/WSP Parsons Brinckerhoff/Great Lakes Engineering Group Wade Trim Associates, Inc.	Measurement Process for Excess Inflow/Infiltration Removal I-96 Renovations I-75 Over Rouge River/Fort Street Design Survey	H2M architects + engineers	Gowanus Expressway Emergency Repair Van Wyck Expressway over Grand Central Parkway
ACEC/MINNESOTA Clark Engineering Corporation HGA Architects and Engineers HR Green, Inc.	Landfill Leachate Treatment System Surly Destination Brewery Waste Landfill Gas to Energy Facility	HAKS Engineers and Land Surveyors/AECOM Hardesty & Hanover	Public Safety Answering Center II Slurry Wall Re-Support – National September 11 Memorial & Museum
LHB Short Elliott Hendrickson, Inc. Stanley Consultants	Roosevelt Bridge Rehabilitation Target Field Station Coon Rapids Dam Rehabilitation	Jaros, Baum & Bolles Langan Engineering & Environmental Services, Inc./ Simpson, Gumpertz & Heger/ Guy Nordenson and Associates Loring Consulting Engineers, Inc.	The Willow School: Health, Wellness & Nutrition Center Harnessing Geothermal Power for Airports
ACEC/MISSOURI Hanson Professional Services Inc./ POWER Engineers, Inc. HNTB Corporation	Mississippi River T-Line Crossing Poplar Street Bridge Interchange Westbound Ramps HarborCenter – Hockey & Mixed Use Facility	McFarland Johnson, Inc.	Dwight Englewood STEM Building Innovative Foundations for Harbor Point Development Mother Clara Hale Bus Depot Baku National Stadium Rehabilitation of the High Bridge over Harlem River
ME Engineers		ME Engineers, Inc. Mueser Rutledge Consulting Engineers STV Thornton Tomasetti TranSystems	Manhattan Bridge Rehabilitation of Cables and Suspenders No. 7 Line Subway Extension
ACEC/MONTANA Morrison-Maierle, Inc.	East Belgrade Interchange – Bozeman Yellowstone International Airport	Weidlinger Associates, Inc. WSP Parsons Brinckerhoff	
ACEC/NEBRASKA HDR HDR	Leavenworth Lift Station Prairie Queen Reservoir and Recreation Area		
ACEC/NEVADA Walter P Moore	Spring Mountains Visitor Gateway Complex		
ACEC/NEW HAMPSHIRE HEB Engineers, Inc.	Stark Covered Bridge Rehabilitation		
ACEC/NEW JERSEY AECOM/Greenman-Pedersen, Inc./ WSP Parsons Brinckerhoff Dewberry	New Jersey Turnpike Interchange 6 to 9 Widening Program Route 3 over the Passaic River Bridge		
HNTB Corporation	Ben Franklin Bridge PATCO Track Rehabilitation		
WSP Parsons Brinckerhoff/ Gahagan & Bryant Associates, Inc.	Channel Recovery and Maintenance Program		
ACEC/NEW MEXICO Bohannon Huston, Inc.	I-25/Paseo del Norte Interchange Reconstruction Ute Reservoir Intake Facility		
CH2M			
ACEC/NEW YORK Arup Barton & Loguidice C&S Companies	Torre Reforma Lake George Day-Use Area Syracuse University Carrier Dome Rainwater Harvesting		

The Benjamin P. Grogan and Jerry L. Dove Federal Building, Miramar, Fla., designed by Syska Hennessy Group, Inc., Fairfax, Va., is a 2016 EEA National Recognition Award winner.



NATIONAL RECOGNITION AWARD WINNERS

FIRM NAME	PROJECT NAME	FIRM NAME	PROJECT NAME
ACEC/NORTH CAROLINA Kimley-Horn and Associates	Fidelity Network Center Campus SW Parking Deck WaterHub at Emory Edgecombe County Landfill Gas-to-Energy Facility I-485/I-85 Interchange Design-Build	ACEC/TEXAS Bridgefarmer & Associates, Inc. HDR	IH 635/The LBJ Managed Lanes Construction Management for Afghanistan National Security Forces Facilities Cottage Grove Low-Impact Development Water Quality Modeling Tool Development Kyle Field Redevelopment
McKim & Creed S&ME, Inc.		Jones Carter	
STV		Lockwood, Andrews & Newnam, Inc. (a Leo A Daly Co.) Walter P Moore	
ACEC/OHIO AECOM	University Medical Center New Orleans Columbus Road Lift Bridge	ACEC/WASHINGTON DLR Group Parametrix, Inc. Parametrix, Inc. Syska Hennessy Group	NRG Stadium Solar Design Calistoga Setback Levee Manchester Stormwater Park Benjamin P. Grogan and Jerry L. Dove Federal Building Port Mann Bridge/Highway 1 Improvement Project
TranSystems		T.Y. Lin International	
ACEC/OKLAHOMA HDR	Verdigris Water Treatment Plant	ACEC/WEST VIRGINIA Draper Aden Associates	Return to Glory: East End Theater
ACEC/OREGON T.Y. Lin International/HNTB Corporation	Tilikum Crossing, Bridge of the People	ACEC/WISCONSIN Applied Technologies, Inc.	Phosphorus Recovery for the Madison Sewerage District Montello Dam Reconstruction Project Regional Airport Snow Removal Equipment Facility Dubuque Water and Resource Recovery Center
ACEC/PENNSYLVANIA CDM Smith Gannett Fleming	Rapid Bridge Replacement Project City of Lebanon Authority Wastewater Treatment Plant Squirrel Hill Tunnel Rehabilitation Dilworth Park The Franklin Institute's Nicholas and Athena Karabots Pavilion	Mead & Hunt	
Gannett Fleming Urban Engineers, Inc. Urban Engineers, Inc.		Mead & Hunt	
ACEC/SOUTH CAROLINA AECOM	Camden Wastewater Treatment Plant Expansion U.S. 601 Bridges U.S. 17 Bypass and S.C. 707/ Farrow Parkway Interchange Seawall Repairs for the City of Charleston, S.C.	Strand Associates, Inc.	
ICA Engineering STV			
The Sheridan Corporation			



The China Pavilion at 2015 World Expo, Milan, Italy, designed by Simpson Gumpertz & Heger, Inc., Waltham, Mass., is a 2016 EEA National Recognition Award winner.



170 Amsterdam, New York, N.Y., designed by DeSimone Consulting Engineers, New York, N.Y., is a 2016 EEA National Recognition Award winner.

ACEC thanks the 2016 Engineering Excellence Awards (EEA) judges and EEA Committee members for their time and dedication to this year's competition.

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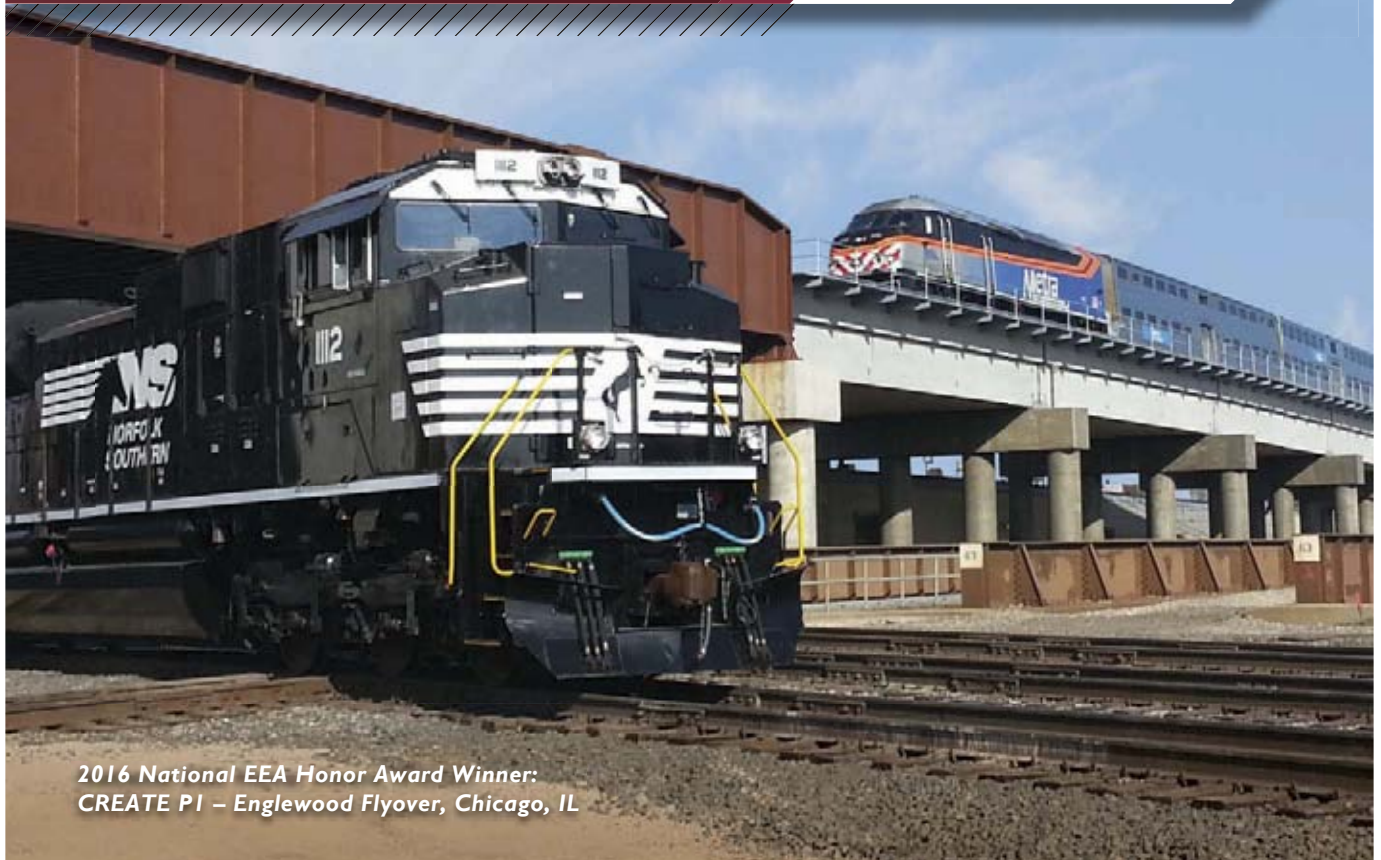
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Twelve historical resources were identified along U.S. 68. The final alignment only impacted two.



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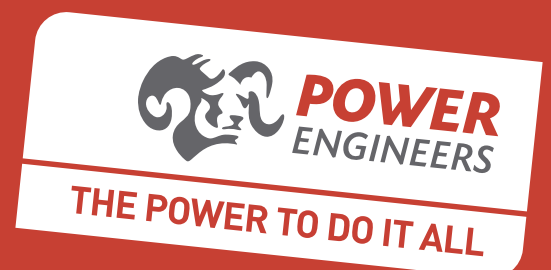
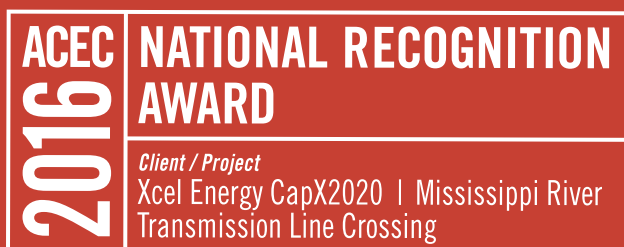


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TOP: Tilikum Crossing, Bridge Of The People, Portland | MIDDLE: Ben Franklin Bridge PATCO Track Rehabilitation, Philadelphia | LEFT: I-95 Express Lanes, Virginia | RIGHT: Levi's Stadium, San Francisco

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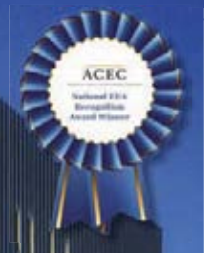
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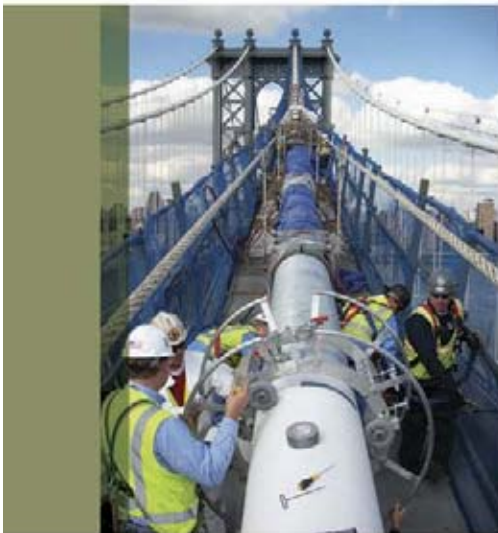


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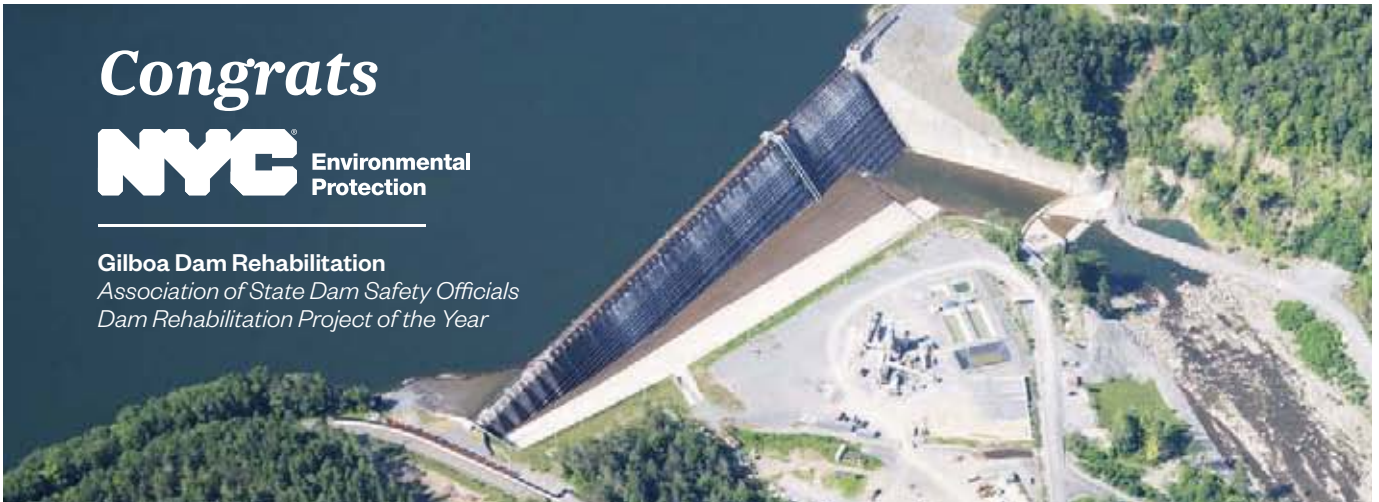
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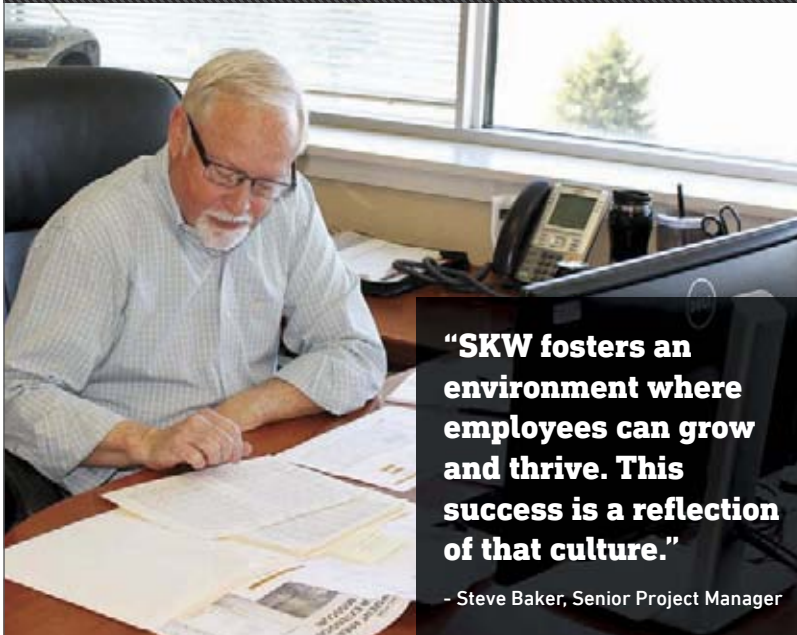


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The Winner's Circle

Past EEA winners describe the excitement and impact of recognition

By Samuel Greengard

Every year, ACEC Member Firms design thousands of projects around the globe. Many of these projects push the boundaries of innovation, creativity and overall excellence and redefine best practices—all in the hope of enhancing quality of life.

ACEC's national Engineering Excellence Awards (EEA) competition annually celebrates these achievements. An astute judging panel of built-environment practitioners painstakingly examines entries, which already have achieved top state-level honors, to select the best of the best.

Those who attend the annual EEA Gala Dinner and Awards Show—known as the “Academy Awards” of the engineering industry—say they walk away with a sense of overall industry pride and a personal accomplishment that comes with professional recognition at the highest level. Not surprisingly, a tremendous amount of excitement and anticipation surrounds the annual black-tie event, which takes place in Washington, D.C.

“It’s a great opportunity to meet up with peers, share success stories and see what is happening in the industry,” says Dale Miller, regional vice president for Tetra Tech. “It’s incredible to learn what award winners are doing, and it’s incredible to win an award—particularly because nominees have all won at the state level.”

The value of being nominated or



Officials from HDR are thrilled to receive a 2010 Grand Award for the Gills Onions Advance Energy Recovery System. Moments later, the project would also be named winner of the Grand Conceptor Award for the year's most outstanding engineering achievement.

winning can benefit a business by attracting new clients, cementing existing relationships, and helping the firm recruit and retain engineering talent. "Having this kind of recognition really meant a lot to everybody, and it was a definite boost in staff morale," says Brett Emmons, CEO of Emmons and Olivier Resources, Inc., whose firm won a Grand Award last year. "It strengthened our sense of working together and the purpose of what we're doing."

Building Bridges to Success

The Engineering Excellence Awards have spotlighted outstanding achievements in the engineering field since 1967. They highlight an array of projects large and small that deliver unsurpassed innovation, uniqueness, social value, economic

gains and sustainable benefits. Those who attend the ceremony say it is more than a chance to get out of the office and network with colleagues. It's an opportunity to see how top-tier firms are advancing design, engineering and construction.

Jon D. Magnusson, senior principal at Magnusson Klemencic Associates and a 26-time award winner, includes EEA awards among his proudest professional honors. His firm snagged its first Grand Conceptor Award in 1996 for updating and modernizing the KeyArena in Seattle. Magnusson Klemencic Associates again captured the year's top award in 2006 for remodeling a federal courthouse in Seattle and again in 2008 for transforming a neglected brown-field site in Seattle into the Olympic Sculpture Park, reconnecting the site to Elliott Bay while creating a new beach.

Magnusson says the scope and stature of the EEA awards make them special. "It incorporates a broad array of factors that extend beyond the technical aspects of a project. You see a diverse array of designs, materials and methods among the nominees and winners," he says. Moreover, the awards take into consideration a variety of engineering disciplines. "They incorporate many different types of engineering, which can make it appear that it's a bit of an apples and oranges comparison. But once the judges sort things out and declare a winner, it makes the award even more meaningful because you're not only competing against people doing the same type of work; you're competing with firms doing all sorts of things. They are the true leaders in the industry."

Tetra Tech's Miller says that he and



Dale Miller, of Tetra Tech, addresses the EEA Gala audience after his firm wins the 2012 Grand Conceptor Award for the Lake Borgne Surge Barrier in New Orleans, La.

members of his firm attend the EEA awards regularly. "It's a great opportunity to meet and share your stories and your successes with your peers," he says. When he found out that the firm was among the finalists for the 2012 Grand Conceptor Award, "My adrenaline and pulse shot up." The firm took home that year's top award for its design and construction of the Lake Borgne Surge Barrier in New Orleans, an innovative two-mile system on the east side of the city that blocks storm surges during hurricanes and other flooding events. It was the largest civil design project in the history of the U.S. Army Corps of Engineers.

"When they announced that we had won the Grand Conceptor Award, the nervousness and excitement turned to euphoria," Millers says. "As a firm, we had put a huge amount of effort into the project. It was a crowning moment for all the blood, sweat and tears." Miller attended the ceremony with about 20 other colleagues, including top officials from the Corps. "When the slide appeared on the screen that displayed our project, the tables erupted in excitement. It was almost surreal."

Others echo the sentiment. "When we won a 2015 Grand Award it was a very exciting moment. It was validation that we had some great work and helped advance the industry," says Emmons, whose firm designed and built a zero-



Jon Magnusson addresses the EEA Gala audience after his firm, Magnusson Klemencic Associates, wins the 2006 Grand Conceptor Award for the Olympic Sculpture Park in Seattle.

discharge storm water system for Inver Grove Heights, Minn. "We were shocked and ecstatic, especially considering the level of competition and the fact that we are a small firm with only 35 employees."

Local Recognition

The excitement of winning can take many forms. Emmons says that soon

after winning, he grabbed his mobile phone to inform colleagues who couldn't attend the ceremony. As word got out, the congratulatory emails, text messages and calls streamed in, including some from the local city council. "There was an enormous sense of pride and accomplishment," he says.

Finley Engineering Group, Inc., has captured three Honor Awards for projects in Vermont and Texas, and Managing Principal Craig Finley celebrates by trumpeting the award through an office celebration, social media and personal recognition. The firm has 23 employees, and 15 are engineers. "Everybody works hard and long hours," he says. "But their families don't always see what they are working on and what they are doing. So, we try to use these events and awards to deliver some recognition on a personal level with staff, families and friends."

Finley says EEA nominations and awards can significantly affect how firms are viewed. The company has captured more than 50 Engineering Excellence Awards and has been recognized as one of the "Best Firms to Work For." Finley believes the two are connected. "The staff knows we are entering projects into competitions," he says. "There is an enormous sense of pride, and it grows when we win an award. We believe that it helps with recruitment, retention and morale."

Finley informs clients about nominations and awards—and invites those whose projects are nominated to attend the gala. "It's a great event. It's enjoyable to wear black tie, and it's great to see all the people and nominated projects," he says. "But it also helps reinforce existing relationships. And when the dust settles and you win an award, it leads to people looking forward to the next job or opportunity to work together."

Magnusson agrees that the awards represent more than a momentary honor. "When we recruit new engineers and they walk past pieces of art that display major projects and the awards, they are genuinely impressed. It makes a difference." ■

Samuel Greengard is a technology writer based in West Linn, Ore.

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SETTING THE STANDARD

Why national standards for **3D transportation assets** are critical to the engineering industry

By Bob Violino

A federal effort to create a 3D spatial standard of all U.S. transportation assets should help accelerate implementation of smart infrastructure, while also providing new opportunities for engineering firms.

The Federal Geographic Data Committee (FGDC)—which promotes development, use, sharing, and dissemination of national geospatial data—is working with transportation industry mapping groups to strengthen asset management requirements for the National Highway System, says Robert Dingess, president and CEO of the Geospatial Transportation Information Management Association.

Establishing a national accuracy standard for the collection of these data sets will be helpful in broadening the analytic value of the data beyond simple asset management, Dingess says.

In addition to GTiMA, organizations such as the Intelligent Transportation Society of America and the American Society for Photogrammetry and Remote Sensing (ASPRS) have joined the FGDC effort.

“Our effort is modeled on the basic data collection standards being used by leading transportation agencies,” Dingess says. Engineering firms are welcome to participate as the standard moves through the normal FGDC process or through their participation with these other organizations, he says.

GTiMA has proposed that the standard mirror the dynamic mapping standards under development for self-driving or automated vehicles.

“This sub-decimeter relative accuracy standard will be used by vehicles to navigate road systems, and vehicle sensors will all be tied to these accuracy standards,” Dingess says. “Tying the accuracy standards provides opportunities for asset



managers to learn from increasingly automated vehicle sensors how engineering decisions affect safety and mobility. It also has the potential to dramatically reduce the cost of access to these data sets for agencies, since private sector firms are collecting the data for vehicles—not asset management.”

Opportunities Ahead

GTiMA's goal is to align the standards from the start. “GTiMA is working to establish a standard to avoid the broad collection of data that cannot be shared or studied from a network standard,” Dingess says.

Creating and implementing a national spatial accuracy standard is important to the engineering profession for a few reasons, says Stephen Ellis, mobile mapping manager at Langan Engineering & Environmental Services, which provides civil engineering and environmental services.

Critically, a standard would ensure that projects crossing jurisdictional boundaries—mainly state lines or regional development organizations—would have the same accuracy requirements, and data developed for those projects would be seamless, says Ellis, who is on the ASPRS LiDAR Mobile Mapping Subcommittee currently engaged in adding mobile mapping collection and accuracy standards to the overall ASPRS mapping standards.

“What this means is that if my engineering firm were working on an interstate redesign project that crosses over a railway on the border of New Jersey and Pennsylvania, for example, any data we acquire from national, regional, statewide or private repositories would all be available with the same derived accuracies,” Ellis says.

This saves project time and resources that would previously have been used in transforming or registering data to the same specifications.

“In some cases, we would have to send a crew into the field to shoot some control points to register the inaccurate data



“The absolute accuracy of a sign post in Nevada should be the same absolute accuracy of a sign post in Florida. Currently it is not. How can an automated vehicle traverse a route if the assets are not mapped uniformly?”

STEPHEN ELLIS
LANGAN ENGINEERING &
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to,” Ellis says. “Say we got the highway data from the state DOT or a local county government, and it was collected to a certain national standard. And we got the rail data from the private owner of the rail line, and it was in a completely different projection and at a completely different accuracy. The disparate data would not align nor be of the same accuracy. This would lead to engineering and design flaws that impact cost, schedule and safety.”

Langan would benefit in the implementation of a singular national standard for transportation asset and infrastructure data collection and accuracy by allowing the use of any data set it needs on a specific project.

“Whether we go out and collect and create data via traditional survey, mobile mapping or UAS [unmanned aircraft sys-

tems], or if we were provided data by the client or subcontractor, or even if we download spatial data from a repository, in theory it would all align and have the same derived accuracies,” Ellis says. “In a sense, it would be ‘plug and play,’ saving time and resources in data manipulation as well as ensuring higher confidence in the design and construction plans developed.”

All too often in the geospatial profession, data is used incorrectly and not as intended, Ellis says. A data set may be perfect within itself and for its created purpose, but if it does not adhere to a singular standard, it would not work for other purposes, he says.

“If the user of the data does not have the metadata, or assumes it is usable, it could lead to errors,” Ellis says. “Data created at one-meter accuracy cannot be used for bridge design or storm water runoff modeling. However, it would work well for creating three-foot contours for watershed analysis and some planning and alignment activities.”

If all data was held to a singular accuracy standard for its collected method-

ology, it would be usable for multiple purposes. “At Langan, we believe in collect it once and use it many times,” Ellis says. “We always strive to collect the most accurate data as possible even if the project requirements do not dictate [that]. The reuse of data by other groups within any organization reduces the cost of collecting, creating and delivering the data.”

Mission Critical

David Evans and Associates is also following the standards developments.

“When DOTs and other agencies collect infrastructure data for use in a programmatic resource, the only way to rely on that data is having a standard that all agencies can reference,” says Marcus Reedy, vice president and manager of the Surveying and Geomatics Center of Excellence at David Evans and Associates.

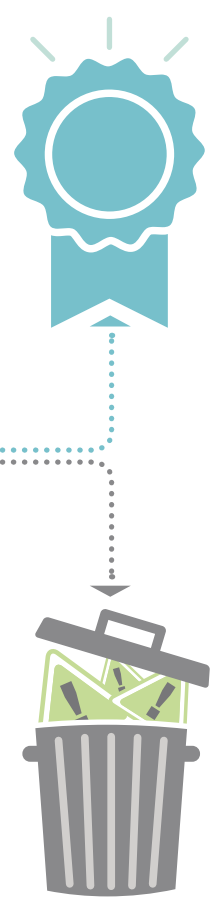
“Currently, with the lack of a standard, each state is either developing their own standard or not using one at all, and that makes it difficult to share information and have it utilized across an agency,” Reedy says. “Consistency and reliability of any data collected is very important to [making] good decisions.”

Having a standard “will provide a baseline for mapping and data capture that will be more consistently priced, compatible with adjoining data sets from other agencies/municipalities, and reusable/sharable,” Reedy says. “This will open the door to consortiums of agencies, municipalities, etc. to sharing costs for data capture over larger areas, in turn developing contiguous data sets that are ‘equal’ and trusted.”

Engineering firms can help advance a national accuracy standard by taking an active role in local, regional and national groups in providing input on best practices of data usage, Ellis says.

“The more input received on which standards affect which industry, the more metrics can be developed and standards applied,” Ellis says. “The absolute accuracy of a sign post in Nevada should be the same absolute accuracy of a sign post in Florida. Currently it is not. How can an automated vehicle traverse a route if the assets are not mapped uniformly?” ■

Bob Violino is a business and technology writer based in Massapequa Park, N.Y.



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Stantec, Pennoni Active Amid Slowed M&A

After a booming year in 2015, engineering industry mergers and acquisitions (M&A) activity slowed in the first quarter of 2016. Morrissey Goodale tracked just 49 domestic deals (sales of architecture, engineering and consulting firms based in the United States), compared to 70 deals in Q1 of 2015 (Figure 1) and the lowest Q1 since 2013.

While activity levels still appear to be healthy, the momentum behind engineering industry consolidation slowed in terms of the number of transactions reported, which is down from historic highs.

Despite dealmakers pumping the brakes, several bright spots emerged during the first quarter. Florida came back in a big way as a hot spot for M&A activity. There were nine sales of Florida-based firms during the first three months of the year (Figure 2). With ACEC Member Dewberry (Fairfax, Va.) announcing its acquisition of fellow ACEC Member Preble-Rish (Port St. Joe, Fla.) in early April, Florida has already matched its total for

all of 2015 with 10 transactions.

Among industry firms, no one had a more industry-impacting first quarter than design powerhouse and ACEC Member Stantec, which announced deals with three *ENR Top 500* design firms. Largest among them was Stantec's announcement that it had reached an agreement to acquire global water expert and ACEC Member MWH Global. The deal adds 6,800 employees worldwide and is anticipated to place the combined firm among the top three design firms in North America and top 15 globally, and at \$795 million, the transaction ranks among the largest deals in the engineering industry in recent years. Stantec also announced deals with Bury—a 300-person engineering surveying, land planning and landscape architecture firm—and with VOA Associates—280-person architecture and planning firm with global reach.

Adding nearly 7,500 staff among these three deals, Stantec brought on board more employees than all of the other

domestic deals we tracked in Q1 combined.

ACEC Member Pennoni was also active in Q1 with acquisitions of McCarthy and Associates (Clearwater, Fla.), a structural engineering consulting firm; ACEC Member RWD Consultants (Camden, N.J.), which specializes in civil/site, environmental, transportation and construction industries; and EPN Group (Largo, Fla.), which specializes in transportation, stormwater and drainage, and civil engineering.

Recent ACEC Deal-Makers MARCH 2016

ACEC Member **Atkins** (Epsom, UK) acquired **Howard Humphreys East Africa Limited Group** (Nairobi, Kenya), a 200-person engineering and project management firm serving the transportation, water, and property markets.

ACEC Member **Morrison-Maierle** (Helena, Mont.) acquired **Murtagh Municipal Engineering** (Billings, Mont.), a water and wastewater engineering firm.

MHF Engineering (Jefferson,

Iowa) joined ACEC Member **Bolton & Menk** (Mankato, Minn.). MHF offers municipal and agricultural drainage engineering, along with land-surveying services.

Rhode Island architecture firm **Saccoccio & Associates** (Cranston, R.I.) acquired the architecture division of ACEC Member **CDR Maguire** (Doral, Fla.).

ACEC Member **Tetra Tech** (Pasadena, Calif.) acquired information technology solutions firm **INDUS Corporation** (Vienna, Va.), a specialist in data analytics, geospatial analysis, secure infrastructure, and software applications management.

Engineering, procurement and construction firm **The Haskell Company** (Jacksonville, Fla.) acquired ACEC Member **Leidos Constructors**, (Reston, Va.), as well as select design assets of Leidos Engineering.

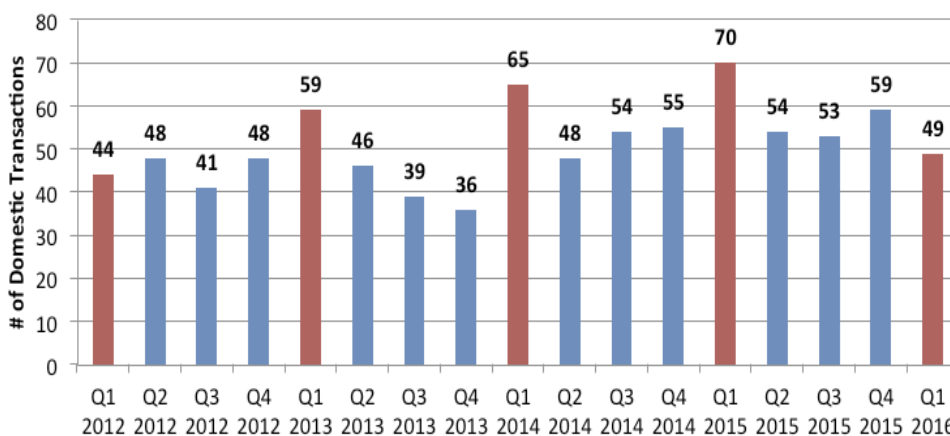
Pro Forma Architecture, Inc. (Dallas) merged with ACEC Member **PGAL** (Houston).

ACEC Member **PBS Engineering and Environmental, Inc.** (Portland, Ore.) and **HDJ Design Group** (Vancouver, Wash.) announced their merger as a means to expand their geographic exposure.

FEBRUARY 2016

Apex Companies (Rockville, Md.) acquired ACEC Member **The Source Group** (Pleasant Hill, Calif.), a technical consulting and environmental engineering firm specializing in complex subsurface site assessments, remedial design, litigation management, and remediation.

Fig. 1: Quarterly Domestic AEC M&A Activity





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Mergers and Acquisitions

Willdan Group (Anaheim, Calif.) signed a definitive agreement to acquire ACEC Member **Genesys Engineering** (Pelham, N.Y.), a mechanical and electrical consulting and engineering company.

ACEC Member **Stanley Consultants** (Muscatine, Iowa) acquired ACEC Member **Hartwig & Associates** (Englewood, Colo.), an engineering and construction management services firm that serves the transportation market.

ACEC Member **NV5** (Hollywood, Fla.) acquired ACEC Member **Sebesta** (St. Paul, Minn.), an MEP engineering and energy management company.

ACEC Member **Terracon** (Olathe, Kan.) acquired **Building Exterior Solutions** (Houston), a firm that provides innovative investigation, evaluation, and construction solutions for exterior building systems.

Mno-Bmadsen (Dowagiac, Mich.), the economic development enterprise of the Pokagon Band of Potawatomi Indians, has acquired a controlling interest in ACEC Member **WBK Engineering** (St. Charles, Ill.).

ACEC Member **West-**

wood Professional Services (Eden Prairie, Minn.) acquired **Kadleck & Associates** (Plano, Texas), a civil engineering and land surveying firm.

TMR Engineering (Arlington, Va.) merged with ACEC Member **CMTA, Inc.** (Louisville, Ky.), an MEP consulting engineering firm specializing in sustainable, high-performance design for the education and health care markets.

ACEC Member **Rummel, Klepper & Kahl (RK&K)** (Baltimore) acquired the assets of ACEC Member **Tamayo Engineering** (Miami), a 70-person firm offering planning, engineering, environmental, and construction services.

ACEC Member **TLC Engineering for Architecture** (Orlando, Fla.) acquired **Allan and Conrad** (Winter Park, Fla.), a structural engineering firm.

ACEC Member **Johnson, Mirmiran & Thompson (JMT)** (Sparks, Md.) acquired ACEC Member **Bayside Engineering** (Tampa, Fla.), a firm that specializes in transportation and traffic design, surface water management, site engineering, construction engineering and

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

■ Watch the M&A Takeaway video that accompanies this article, presented by Mick Morrissey, at www.morrisseygoodale.com/ACECMergers/MayJune2016.



inspection, and surveying and mapping.

JANUARY 2016

Keystone Capital (Chicago) completed an investment in and partnership with ACEC Member **Target Engineering Group** (Coral Gables, Fla.), a 140-person firm that provides construction management, professional engineering, and construction inspection services.

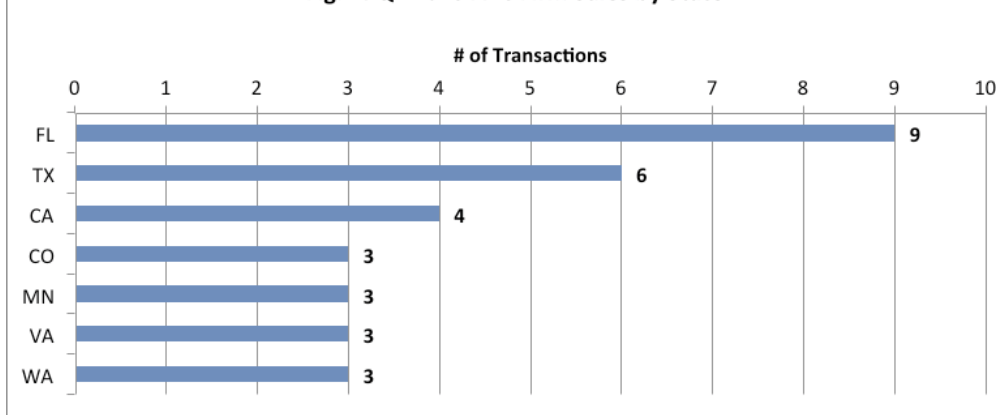
ACEC Member **Hardesty & Hanover** (New York City) acquired **The Heimburg Group** (Tampa, Fla.), a 20-person transportation firm with experience in highway design and planning in Florida.

Triangle Surveying & Mapping (Miami) joined ACEC Member **Maser Consulting** (Red Bank, N.J.), a multi-disciplined engineering firm. Triangle Surveying & Mapping's presence on the east coast of Florida complements Maser's existing regional office in Tampa.

ACEC Member **Daniel B. Stephens & Associates (DBS&A)** (Albuquerque, N.M.) joined forces with **Geo-Logic Associates (GLA)** (Ontario, Canada), as a wholly owned subsidiary. GLA is a geologic, geotechnical, civil, and environmental consulting firm.

ACEC Member **Cator, Ruma & Associates** (Lake-wood, Colo.) merged with mechanical engineering firm **Engineering Incorporated** (Boise, Idaho).

Fig. 2: Q1 2016 AEC Firm Sales by State



Neil Churman is principal consultant of Morrissey Goodale LLC—a strategy, M&A and human capital solutions firm serving the A/E/C industry. Churman, who is based in the firm's Houston office, can be reached at nchurman@morrisseygoodale.com.

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Members in the News

On The Move

Former ACEC Chairman **Jerry Stump** has been named president of Mobile, Ala. based **Volkert, Inc.** Stump, who has served as COO since 2013, will now be president and COO of the firm. In April, he was named president and CEO of Volkert Global, the firm's international affiliate. Stump also serves on the executive committee of the Design Professional Coalition (DPC).

Glen Allen, Va.-based **Schnabel Engineering, Inc.**, named **Walter J. Rabe** president and CEO, succeeding **Gordon Matheson**, who had served in that role since 2001. Rabe recently served as executive vice president of Schnabel Engineering Consultants, Inc.

Fort Worth, Texas-based **Freese and Nichols, Inc.**, selected **Brian Coltharp** as president and CEO, effective Jan. 1, 2017. He will succeed **Bob Pence**, who served as CEO since 2002. Coltharp will serve as COO in 2016 succeeding **Ron Lemons**, who transitioned to a new role in the firm's water practice.

Tampa, Fla.-based **Atkins** announced that **Barry Schulz**, COO of Atkins North America, and **David Quinn**, the firm's CFO, will jointly lead the company on an interim basis, following the departure of CEO **L. Joe Boyer**. Schulz is based in Denver, and Quinn is based in Boston.

London-based **Amec Foster Wheeler** announced the appointment of **Jonathan Lewis** as CEO replacing interim CEO, **Ian McHoul** who will remain CFO. Lewis, who will be based in London formally served as a senior vice president at Halliburton Company. **Ann Massey** was appointed president, Environment & Infrastructure Americas for AMEC. She joined the firm five years ago through an acquisition of MACTEC, where she served as CEO. She is based in the Atlanta office.

Andrew McCune was named president and CEO of Detroit, Michigan-based Wade Trim. This is a planned leadership transition from **Frank Tymowski**, who served as president and CEO for the past three years. Tymowski will remain as a firm principal. McCune has been with **Wade**

Trim for 29 years and most recently served as COO. He's also been actively involved in ACEC/Michigan for 16 years.

In a planned leadership transition, Red Bank, N.J.-based **Maser Consulting P.A.**, announced that **Kevin L. Haney** was appointed president and **Leonardo E. Ponzio** to executive vice president. Haney and Ponzio will continue their previous responsibilities of COO and CAO, respectively. Founder Richard M. Maser will maintain chairman and CEO role.

Chicago-based **Lochner** appointed **Jeanne Cormier** COO, following the retirement of former COO **Chuck Craycraft**. Cormier, previously senior vice president, will be based in the East Hartford, Conn., office.

Pasadena, Calif.-based **Jacobs Engineering Group, Inc.**, named **Robert V. Pragada** president of its Industrial Line of Business. He succeeds **Andrew Kremer**, who moved to an executive adviser role. Pragada returns to Jacobs after serving as president and CEO of The Brock Group and is based in the Conshohocken, Pa., office.



Jerry Stump



Walter J. Rabe



Brian Coltharp



Barry Schulz



David Quinn



Jonathan Lewis



Ann Massey



Andrew McCune



Kevin Haney



Leonardo Ponzio



Jeanne Cormier



Robert V. Pragada



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Contact Tony Abbas,
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Welcome New Member Firms

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Barnum Mechanical Inc., Loomis
 Blue Ocean Civil Consulting, Costa Mesa
 Buehler & Buehler Structural Engineers, Inc., Sacramento
 Currier & Company, Los Angeles
 Derek J. McGregor, Inc., dba DMc Engineering, Irvine
 Forell/Elsesser Engineers, Inc., San Francisco
 Geo-Advantec, Inc., San Dimas
 Geotechnologies, Inc., Glendale
 GMU Geotechnical, Inc., Rancho Santa Margarita
 Hydros Consulting, Weimar
 Infrastructure Factor Consulting, Inc., El Segundo
 Joseph C. Truxaw and Associates, Inc., Orange
 KASL Consulting Engineers, Citrus Heights
 Lee & RO, Inc., City of Industry
 Mid Pacific Engineering, Inc., Redding
 MT Hall & Associates, Inc., Chico
 RCE Consultants, Inc., Laguna Hills
 SC Solutions, Inc., Sunnyvale
 SENER Engineering and Systems, Inc., Los Angeles
 Stillwater Sciences, Berkeley
 TSAC Engineering, San Diego

ACEC/Colorado

William Siegel Consultants, Monument

ACEC/Florida

B&S Engineering Consultants, LLC, Winter Park
 Bermello Ajamil & Partners, Inc., Miami
 CLW Engineering, LLC, Merritt Island
 Collective Water Resources, Lake Worth
 Dredging & Marine Consultants, LLC, Port Orange
 Driggers Engineering Services, Inc., Clearwater
 Humiston & Moore Engineers, Naples

Interflow Engineering LLC, Tampa

June Engineering Consultants, Inc.,

Winter Garden
 Omni Communications, LLC, Tampa
 Poulos & Bennett, Orlando
 SPECCO Environmental, Inc., Winter Springs

ACEC/Georgia

Moreland Altobelli Associates, Inc., Duluth
 Waterhouse Engineering, LLC, Dahlonega

ACEC/Idaho

River Structures Consulting, LLC, Boise

ACEC/Illinois

Orion Engineers, LLC, Oak Park
 R.M. Chin & Associates, Inc., Chicago

ACEC/Indiana

Ghafari Associates, LLC, Indianapolis

ACEC/Louisiana

Ballard CLC, Inc., Alexandria
 Movassaghi, LLC, Lafayette
 Professional Engineering and Surveying Company, Inc. (PENSCO), Lafayette
 Quality Engineering & Surveying, LLC, Port Vincent
 Vectura Consulting Services, LLC, Baton Rouge

ACEC/Maine

Calderwood Engineering Etc., LLC, Richmond

ACEC/Massachusetts

Arora Engineers, Inc., Boston
 JCK Underground, Inc., Boston

ACEC/Michigan

SmithGroupJJR, Detroit

ACEC/Nebraska

W Design Associates, McCook

ACEC/New York

South Col Engineering, PC, Latham

ACEC/North Carolina

McCracken & Lopez, P.A., Charlotte
 Saber Engineering, P.A., Charlotte

ACEC/Ohio

Jobs Henderson & Associates, Newark
 Stone Environmental Engineering & Science, Inc., Westerville
 TGC Engineering, LLC, Sharon Center

ACEC/Oklahoma

PATH Engineering, Oklahoma City
 W2M Consulting, LLC, Edmond

ACEC/Oregon

Adapt Engineering, Portland
 Humber Design Group, Inc., Portland
 Tye Engineering and Surveying, Bend

ACEC/Tennessee

Quantum Environmental & Engineering Services, LLC, Knoxville

ACEC/Texas

Associated Testing Laboratories, Inc., Houston
 Childress Engineering Services, Inc., Richardson
 Contech Control Services, Inc., La Porte
 Detail Design, Inc., Houston
 GarzaBury, LLC, Austin
 LJB Inc., Houston
 Marshall Engineering Corporation, Humble
 Noble Surveying & Engineering Works, LLC, Austin
 PND Engineers Inc., Houston
 Texas Engineering And Mapping Company, Stafford

ACEC/Washington

Dubin Environmental, Seattle
 Standridge Design, Inc., Vancouver

ACEC/Wyoming

WH, LLC dba Western Heritage Consulting & Engineering, Mills

Calendar of Events

JUNE

- 14** Managing a Project's Scope of Services and Controlling Scope Creep and Getting Paid (webinar)
- 15** Pin the Tail on the Leader (webinar)
- 22** Communication for Project Managers (webinar)
- 23** The Business Development Plan Assessment: Enhancing A/E Firm Performance and Marketing ROI (webinar)
- 28** The New Rules of Modern Marketing for Engineering Firms (webinar)
- 29** Professional Liability-A Look Behind the Curtain (webinar)
- 30** Stop Learning on the Lamppost: How to Use Data to Illuminate Your Message, Not Just Support it (webinar)

JULY

- 6** Transcending Generation Gaps with Effective Communication (webinar)
- 7** Bringing Data into Professional Services Marketing (webinar)
- 12** Increase Your Impact! Five Key Skills for Your Association (webinar)
- 13** Grow, Merge, or Be Acquired: M&A Perspectives on the Engineering & Design Sector (webinar)

AUGUST

- 4-5** 2016 CASE Risk Management Seminar: Managing Risk for High Stakes Success, Chicago

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

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

Solutions for the A/E Industry

New Guidelines for Business Development Plan Assessment and Benchmarking

ACEC's just-published *Business Development Plan Assessment and Benchmarking* delivers a proven approach for evaluating any firm's marketing and business development capabilities. This downloadable tool identifies strengths and opportunities for improving marketing and business development processes, systems, staff and resources.

Users can rapidly assess firm competencies in 12 areas that are fundamental to an effective marketing and business development program, including:

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- Pursuit management
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- New markets penetration
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- Internal marketing and support
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- Business development culture
- Training and development

It also offers a scope of work and guidance for quantitatively benchmarking firm performance based on metrics from a survey of more than 300 A/E firms. This publication helps business development professionals establish baseline performance and develop an action plan for enhancing firm performance to maximize marketing return on investment. For purchase and immediate download, go to ACEC's bookstore at bit.do/ACEC-Benchmark.



Popular Program Offers Insights to Serving as an Effective Courtroom Witness

Launched in 2009, the ACEC program, *Applying Expertise as an Engineering Expert Witness*, has trained hundreds of professional engineers to serve as unbiased expert witnesses.

The program covers appropriate courtroom behavior, such as conduct on the stand when cross-examined by the opposing attorney, as well as what experts need to know about tasks and actions outside the courtroom during discovery, depositions and writing reports.



Applying Expertise as an Engineering Expert Witness is for engineers, architects and surveyors interested in taking engagements as experts or as an added client service. The next day-and-a-half course is in Chicago from May 19 to 20. For course and registration information, visit bit.do/ACEC-ExpertWitness.

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The program will take place at the Hilton Garden Inn, Magnificent Mile, in Chicago from August 4 to 5. Register now to help your firm balance risk management and profitability with greater confidence at bit.do/CASE-ManagingRisk.



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Abonmarche Consultants, Inc.	Christian-Roge & Associates, Inc.	Hepworth-Pawlak Geotechnical, Inc.	Meyer, Meyer, Lacroix & Hixson, LLC	Standridge Design, Inc.
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ACEC of Colorado	Civiltech Engineering, Inc.	Holben, Martin & White Consulting	MK Engineers Group	Steven Schaefer Associates, Inc.
ACEC of Georgia	CK Group, Inc.	Holloway, Updike and Bellen	MKK Consulting Engineers, Inc.	Studio 8.18 Engineering
ACEC of Massachusetts	Collins Engineers, Inc.	Holzmacher, McLendon	Mohr & Associates, Inc.	Submeter One, LLC
ACEC of Minnesota	Consolidated Technologies	Hufsey-Nicolaides-Garcia-Suarez Associates	Moreland Altobelli Associates, Inc.	Surveying Solutions, Inc.
ACEC of Missouri	Core Consultants, Inc.	Hornfeck Engineering, Inc.	Morton & Pitalo, Inc.	Sweitzer Engineering
ACEC of Nebraska	Creder Associates, LLC	Hubbell Roth & Clark, Inc.	Mosure & Syrakis	Synterra
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