

ACEC
Wisconsin

Engineering

EXCELLENCE AWARDS

2017



Next Generation Solutions!

— Cleaner Water —

— Safer Roads —

— Greener Buildings —

Choose Experience

and reduce your risk.

In the past 11 years, Ahern has completed more than 1,300 water and wastewater projects.



Kenosha Wastewater Treatment Plant Project

Mechanical Contracting | Fire Protection | Fabrication



Building Comfort for Generations.



800.532.4376 | jfahern.com

CONTENTS

- Letter from the Chairman of ACEC WI
By Les Fafard 3
- Engineering Excellence Awards 4
- Letter from the President of ACEC WI
By Chris Klein 4
- Engineering Excellence Awards Judges . 5, 6
- Best of State 8
- State Finalists 16
- QBS FAQs 25
- ACEC WI Member and Affiliate Firms 26

**AMERICAN COUNCIL
OF ENGINEERING COMPANIES
OF WISCONSIN**

316 W. Washington Ave, Ste 950
Madison, WI 53703
Phone: 608.257.9223

E-mail: acecwi@acecwi.org

Web: www.acecwi.org

President/Executive Director Chris Klein

The 2017 ACEC WI Engineering Excellence Awards is a publication of The Daily Reporter newspaper.

The Daily Reporter Publishing Co.
225 E. Michigan St., Suite 300
Milwaukee, WI 53202
414-276-0273 or 800-508-3800

LETTER FROM THE CHAIRMAN OF ACEC WI

Engineering Excellence Awards Recognize Outstanding Professional Work



**Les Fafard, PE
Chairman of the Board**

Please join us in recognizing and celebrating Wisconsin's annual publishing of the best overall award winning projects completed with excellent collaboration and coordination between clients and engineers. Our clients are able to foresee the future needs to ensure progress continues to keep Wisconsin great. Professional engineers are tasked with turning those future needs such as roads, water systems and buildings into reality throughout Wisconsin. We also recognize the owners and public officials that provide the vision, support and leadership required to ensure the execution of these projects.

The American Council of Engineering Companies of Wisconsin (ACEC WI) salutes and celebrates the exceptional accomplishments of these Wisconsin engineering professionals as it has done for the past 46 years. Excellent teamwork and dedication ensure the success of these infrastructure projects brought to life by clients and engineers.

Wisconsinites trust our industry to know that the water they drink, the highway bridge they travel and the building they enter are safe. In today's ever evolving world, more than engineering principles are incorporated into these new facilities. To meet the expectations of the owner and users, the design development process for these projects

evolves to include sustainable designs, energy efficient features and community themes. ACEC WI is proud to recognize the multi-layered efforts of Wisconsin engineering professionals to meet these requirements for clients.

Projects procured through the Qualifications-Based Selection (QBS) process are highlighted with a red ribbon. QBS procurement ensures a competitive selection process for engineering that promotes innovation and cost-savings. These projects are real, award-winning examples of how the QBS process works to deliver successful and innovative projects that benefit the residents of our great state.

On behalf of the ACEC WI Board of Directors, I want to congratulate this year's award winners and thank the sponsors of this publication for their support of our Engineering Excellence Awards program and ACEC WI.

LETTER FROM THE PRESIDENT OF ACEC WI

A Closer Look at ACEC WI

The American Council of Engineering Companies of Wisconsin is the only organization in the state that represents the business side of the professional engineering industry. ACEC WI represents more than 80 premier engineering firms, employing more than 4,000 employees in more than 160 offices across the state.

Our primary mission is to strengthen the business environment of our member firms through government advocacy, political action, and business education. ACEC WI helps its member firms achieve higher professional, business and economic standards which results in a better professional engineering service for their clients.

As an organization, we are dedicated to ensuring the public is aware of the crucial role professional engineers play in developing and renovating both current infrastructure and new development. ACEC WI members have answered the call to successfully engineer the vision of their clients. Along

with our industry partners and clients, we have solved many challenges.

In addition to our member resources in Wisconsin, we are a member organization of ACEC – a national federation with more than 5,000 firms representing more than 500,000 employees throughout the country. ACEC works tirelessly to propel the nation's economy and enhance and safeguard America's quality of life. These efforts allow Americans to drink clean water, enjoy a healthy life, take advantage of new technologies, and travel safely and efficiently. The Council's mission is to contribute to America's prosperity and welfare by advancing the business interests of member firms.

The important work our member companies do for our state's infrastructure, economy and quality of life is the lifeblood of this organization and I am excited to celebrate those achievements at this year's Engineering Excellence Awards.



Chris Klein

Chris Klein
President/Executive Director

ENGINEERING EXCELLENCE AWARDS

Recognizing Exceptional Ideas & Innovations in Engineering

Like the Academy Awards for the film industry, the Engineering Excellence Awards highlight the best of the best in professional engineering. ACEC WI's Engineering Excellence Awards program recognizes and celebrates engineering achievements that demonstrate the highest degree of skill and ingenuity. Established in 1970, this statewide competition effectively ensures firms achieve the recognition they so richly deserve.

Through exceptional engineering design, these award-winning projects significantly contribute to the quality of life of the state's citizens. They also recognize the design professionals involved for their expertise and dedication to the profession. The 2017 winners strengthened our infrastructure, enhanced public safety and bolstered the economy.

The winning projects are as diverse as the firms involved. This year's projects come from across the state and beyond. Entries range greatly but one element each has in common is the value professional engineers provide their clients and communities.

From safe drinking water to getting us to and from work and school, engineers touch our daily lives in ways that often go unnoticed. The Engineering Excellence Awards program strives to increase the public's knowledge of what professional engineers really do and recognize professional engineering as a respected and essential profession.

An Engineering Excellence Award is a tribute not only to the winning project and design firm, but also to the clients, owners, subconsultants, contractors and everyone else who played a role in making these projects a reality.

Judging and Awards

A panel of highly qualified judges from diverse backgrounds outside the association's membership reviewed this year's entries. Each entry was judged on its own merits and specifically on the role of the engineering firm submitting the project. The process involved a combination of individual review of entry materials, group discussion and deliberation.

The panel used the following criteria to evaluate each submission:

- Original or innovative application of new or existing techniques
- Future value to the engineering profession and perception by the public
- Social, economic, and sustainable design considerations
- Complexity
- Exceeding client/owner needs

Each entry was truly an example of excellence in engineering, which made the judges' deliberation extremely difficult.

The award winning projects, firms and clients will be honored at the ACEC WI Awards Banquet. All are invited to celebrate these award-winning projects at the gala event on March 24, 2017 at The American Club in Kohler, Wisconsin.

Congratulations to all our award-winning firms and clients on your outstanding projects!

State Finalist Award

State Finalist Awards are presented to entries demonstrating a high degree of client satisfaction through quality, cost-effective solutions. This year, ACEC WI presented ten State Finalist Awards.

Best of State Award

Best of State Awards are presented to entries representing the highest degree of technical innovation, client satisfaction and contributions to the engineering industry. Best of State winners are eligible to compete in the ACEC National Engineering Excellence Awards competition. This year, ACEC WI presented six Best of State Awards.

Grand Award

Grand Award is selected from the Best of State winners. It is the entry the judges felt best represented the spirit and criteria of the competition. The Grand Award will be announced for the first time at the March 24, 2017 Awards Banquet.



Qualifications-Based Selection Projects

A number of the award-winning projects were procured using Qualifications-Based Selection (QBS). On the following pages, a QBS label indicates projects that were procured using QBS. QBS is a proven process to help owners find the highest-qualified engineering or architectural firm or team for a project. Page 22 of this magazine provides information on the QBS process. Additional information is available at www.qbswi.org.

CONGRATULATIONS *excellence award winners*

Congratulations to the 2017 ACEC Engineering Excellence Award winners.

Your commitment to your projects has distinguished you among engineering's best. Johnson Insurance has the expertise to help you stay a step ahead of your risk management challenges from individual practitioners to sophisticated multi-state firms.

HILLARY PINK-BUDWORTH

Commercial Insurance Consultant | hpink-budworth@johnsonins.com

525 Junction Road, Madison | 800.776.7055

JOHNSONINS.COM

BANKING WEALTH INSURANCE

**JOHNSON**
INSURANCE®

2017 Engineering Excellence Awards Judging Panel

On behalf of all the winners, the board members of ACEC of Wisconsin, the employees and staff members of ACEC of Wisconsin as well as *The Daily Reporter* staff, we wish to thank the following hardworking important individuals in their dedicated fields for helping us to select the honorees featured in this publication.



Jake Ehmke, PE

Wisconsin Department of Administration
Team Leader

Expertise: *vertical construction*

Meg Galloway, PE

Wisconsin Department of Natural Resources
Dam Safety and Floodplain Section Chief

Expertise: *dams, floodplains*

Matt Grove

Wisconsin Transportation Builders Association
Director of Construction

Expertise: *transportation, construction*

Angela Hanz, PE

US Forest Service
Group Leader, Research Facilities Engineering

Expertise: *water/wastewater*

Mark Herr, AIA, NCARB

Plunkett Raysich Architects
Partner

Expertise: *architecture*

Al Rommel, PE

Wisconsin Department of Transportation
Project Development Manager

Expertise: *transportation design and construction*

Dan Talarczyk, PLS, PE

Milwaukee Metropolitan Sewerage District
Survey Services Supervisor

Expertise: *surveying, environmental engineering*

Anna Varney, PE

FHWA Wisconsin Division
Field Operations Engineer

Expertise: *highway design, highway safety*

Errin Welty, CEcD

Wisconsin Economic Development Corporation
Downtown Development Account Manager

Expertise: *real estate development and redevelopment*

CONGRATULATIONS
TO ALL ACEC-WI
AWARD WINNERS!



BEST OF STATE

**Mead
& Hunt**

Your full-service partner
meadhunt.com



WisDOT: USH 14 Urban Safety and Traffic Improvement Project



ROCK RIVER WATER RECLAMATION DISTRICT - Constructed Wetlands: A New Solution to Excess Flow Storage

Congratulations 2017 ACEC Award Winners

We congratulate the Rock River Water Reclamation District on the success of this pioneering project and are proud to be recognized alongside them.

ClarkDietz

Engineering Quality of Life™

Kenosha • Milwaukee • Wausau • clarkdietz.com

Congratulations

ACEC WI Leadership Institute Class of 2017

David Boldt, PE; R.A. Smith National Inc.
James Dzienkowski, PE; KL Engineering Inc.
Jared Engelke, PE; Strand Associates Inc.
Raine Gardner; MSA Professional Services Inc.
Mark Graczykowski, PE; MSA Professional Services Inc.
Bradley Groh, PE; JT Engineering Inc.
Aaron Gudeyon, PE; Mead & Hunt Inc.
Stephanie Hacker, AICP, LEED AP; GRAEF
Brandon Herbert, PE; Strand Associates Inc.
Cory Inman, PE; EMCS Inc.
Scott Kaiser, PE; EMCS Inc.
Angela Kerrigan, PE; Mead & Hunt Inc.
Peter Kolaszewski, PE; Ayres Associates
Andre Ost, PE, PTOE; GRAEF
Andrea Ring; Jewell Associates Engineers Inc.
Paul Schafer, PE; R.A. Smith National Inc.
Ellyn Subak; R.H. Batterman & Company Inc.
Terrence Tavera, PE; Ruekert/Mielke Inc.
Katherine Vater; TRC Environmental Corp.
Jared Wendt; CH2M Hill Inc.
Lance Williston, PE; KL Engineering Inc.
Class Advisor Greg Jewell, PE, PLS; Jewell Associates Engineers



Experience Leadership Institute

The search for the Class of 2018 begins May 2017. Don't miss this opportunity for top-notch career and leadership development training right here in Wisconsin.

Leadership Institute Key Topics:

- A/E Firm Leadership: Know Thyself, Then Others
- Marketing & Business Development
- Work/Life Balance
- Government Affairs
- Running the Business
- Risk Management

ACEC
Wisconsin

www.acecwi.org

2016 WATER MAIN REHABILITATION

SHORT ELLIOTT HENDRICKSON INC. Client: City of Wauwatosa Water Utility | **Category:** Special Projects



Municipalities are always trying to innovate and the city of Wauwatosa is no exception. The final product of a multi-year and multi-million dollar renovation of the downtown is anticipated to draw in more visitors and businesses than ever before. But while those plans are wonderful, there is a lot of infrastructure work that needs to take place first. This is where the city ran into trouble – a water main built in 1897. This main had to be rehabilitated before any future plans moved forward.

Short Elliott Hendrickson (SEH) stepped up with an innovative use of trenchless technology that kept disruption to a minimum. Trenchless technology is designed to review underground assets without the need to dig a trench to get at the pipes. These trenches are disruptive and expensive; in Wauwatosa's case, the water main ran underneath a bike path, a railroad and multiple businesses and restaurants. To compound the issue, there were no as-built drawings on record because of the age of the pipe. SEH was able to work closely with Wauwatosa Water Utility staff to perform a live water main and leak assessment using a camera sent in through a fire hydrant. Using the data gathered from the camera, SEH designed a pipe liner that will last for another 70 years, meaning that this water main could be a part of Wauwatosa's infrastructure from 1897-2087.

As awards judge Angela Hanz, PE explains: "This project was unique in that a vintage 1897 water main could be rehabilitated using trenchless technology rather than being replaced with a new pipe. This resulted in minimal disruptions to downtown businesses in Wauwatosa's busiest area of the community and a quick project completion."

Through careful cooperation and foresight, SEH's team was able to deliver an optimal solution as part of a major municipal effort. Wauwatosans were able to directly benefit from the lack of disruption and quick project completion and will be able to benefit from a rehabbed 19th century pipe and a 21st century downtown.

TOP: Introducing the Investigator+ technology to Wisconsin, the team snaked a camera through a fire hydrant to learn vital information about the water main. **BOTTOM:** The small footprint of the project allowed uninterrupted use of the downtown area for pedestrians, trains and businesses.



CONSTRUCTED WETLANDS: A NEW SOLUTION TO EXCESS FLOW STORAGE

CLARK DIETZ INC.

Client: Rock River Water Reclamation District | **Category:** Water & Stormwater



The wetland provides storage and cleaning functions for the project and also accomodates native plants and animals.

Humans have an outsized impact on the environment but recently we have been getting better at addressing those impacts. The Rock River Water Reclamation District (RRWRD), in an effort to reduce sanitary sewer outflows resulting from population growth and human behavior, needed to create excess storage capacity for use in major storms. The RRWRD stepped up to the challenge with the environment in mind.

Clark Dietz looked at a solution that went away from the conventional and achieved the overall goals of environmental protection and promotion. They designed a new excess pump station that would pump into a constructed wetland instead of the traditional impervious bottom basin. The excess pump station is more than capable of handling high intensity rains and will ensure that excess chemicals and nutrients are not dumped into the Rock River. Additionally, the wetland has the same capacity as any facility but provided a secondary benefit of polishing effluent and cleaning up some additional sanitary sewer outflows. These

outflows can cause harmful bacteria to be dumped into the river which poses a danger to humans and animals. The wetland instead absorbs and filters these bacteria through the intelligent use of plants and sandy soils. By incorporating a wetland basin, the RRWRD will save money on energy use and chemical use while adding to its environmental mission.

Awards judge Dan Talarczyk praised the project, saying “This project exemplified an innovative green solution to an engineering problem. It combined interesting design nuances with natural process to create an aesthetically pleasing storage and treatment facility.”

Clark Dietz went above and beyond the call by designing a wetland storage basin meeting the needs of the RRWRD while moving away from a static concrete basin. The wetland is a clear indicator that green solutions can be as effective as traditional gray solutions and points to the harmonization of environmental and engineering goals.

EAU CLAIRE WWTF: RESILIENT. ROBUST. SUSTAINABLE

DONOHUE & ASSOCIATES INC.

Client: City of Eau Claire | **Category:** Water & Stormwater



TOP: The new site preserves the natural beauty of the area while protecting the environment and providing significant cost and quality of life dividends.
BOTTOM RIGHT: With a new, more efficient biogas conversion system, the facility is able to meet green goals and save money.

The City of Eau Claire wanted to improve its wastewater treatment plants but was faced with some unique difficulties that required them to put additional thought and effort into their renovations. First, the city is located at the confluence of the Eau Claire and Chippewa Rivers which requires additional care to avoid runoff into those critical rivers and ultimately into the Mississippi River. The city was also faced with higher than usual ammonia levels and a mandate that those levels be reduced.

Donohue & Associates set out goals from the beginning to create a facility that was resilient, robust and sustainable. To meet these goals, the team used a Biological Nutrient Removal activated sludge system. This system minimized the chemical requirements that are usually necessary for a wastewater facility – with the reduction in chemicals, the facility saves \$225,000 annually. With other improvements such as efficient biogas conversion and new control system upgrades, the new facility saves more than \$525,000 in total annually.

The project was also made more difficult by the requirement that the plant remain functional during the upgrades. This required extensive collaboration between Donohue and city engineers to ensure that necessary systems operated effectively.

From awards judge Meg Galloway, PE: “This project provided a phased approach to assure the facility could meet new effluent

criteria in the short term while planning and budgeting for a more environmentally sustainable biological nutrient removal process and facility and system upgrades. The facility upgrades have met or exceeded the prediction of the design modeling, resulting in substantially reduced total suspended solids, biological oxygen demand, ammonia and nitrogen in the effluent while improving odor control and reducing staff overtime.”

Not only did the facility hit every metric required to reduce ammonia and other pollutants but it was also delivered on time and \$4 million under budget, in addition to the yearly cost savings. Donohue’s team worked collaboratively with Eau Claire to deliver a truly resilient, robust and sustainable wastewater treatment plant.



KENOSHA WWTP: ENERGY OPTIMIZED RESOURCE RECOVERY

DONOHUE & ASSOCIATES INC. Client: Centrisys Corp. | Owner: Kenosha Water Utility | Category: Energy



TOP: In a first for North America, the PONDUS technology enhances biogas production for use in electricity generation. **BOTTOM RIGHT:** In a first for North America, the PONDUS technology enhances biogas production for use in electricity generation.

Kenosha set out a progressive goal of a more sustainable wastewater treatment plant. The current plant handles more than 22 million gallons of wastewater a day and the solids left over from the process had to be loaded onto trucks and hauled away to a separate landfill. Additionally, the electricity to run the plant increased costs because the facility did not produce its own energy.

Donohue & Associates came in with a plan to address all of these issues. The designs used technologies that had not yet been used in North America – the PONDUS system that was installed is one of a handful in use in the world and delivered a 30% increase in biogas production because of its superior methods in breaking down waste solids. Alongside this system, a centrifuge was installed that significantly reduced the amount of water needed to use the system. This allowed the facility to cut the number of digesters in half, saving money on operations and maintenance costs.

Because of the improvements, biosolids that previously had to be transferred to a landfill were reclassified and the nutrients were able to be reused in a beneficial way. The biosolids can now be used for compost projects or as fertilizer at local farms. The increase in biogas production has allowed the facility to use that energy to power the plant, cutting down on costs. Overall, the new plant is expected to pay for itself in eight years and save \$750,000 a year.

Awards judge Anna Varney, PE, said “This design is a great example of integrating innovative technologies into existing infrastructure. Now the main heat energy supply comes from waste heat, biogas is converted into electricity and biosolids are Class A to be used as fertilizer instead of Class B which was previously hauled to a landfill.”



The project was focused on a solution that was both practical and sustainable. Donohue delivered by using cutting-edge technology that met environmental goals and reusing waste materials to realize extreme cost savings.



39th Avenue
 STH 165 to 97th Street
 2017 ACEC-WI State Finalist



Milwaukee Intermodal Station
 Passenger Train Concourse Reconstruction
 2017 ACEC-WI State Finalist

Photograph courtesy of Steve Hall © Hedrich Blessing

- PROACTIVE
- INNOVATIVE
- RESPONSIVE

Award-Winning Engineering

with Alfred Benesch & Company

Full Service Engineering Capabilities in Wisconsin and Beyond:

- | | |
|------------------------|-------------------|
| Aviation | Local Roads |
| Bridges | MEP |
| Buildings | Railroads |
| Construction Services | Site Planning |
| Cost Management | Stormwater |
| Electrical | Survey |
| Environmental | Traffic |
| Geotechnical | Transportation |
| Highways | Value Engineering |
| ITS | Water/Wastewater |
| Landscape Architecture | |



Congratulations

to all 2017 ACEC Award Winners!



CTH D BRIDGE OVER FOX RIVER
 Town of Rochester, Racine County, WI

ACEC STATE FINALIST

Our thanks and congratulations to the Town of Rochester and Racine County for the success of this innovative project.



CONGRATULATE

www.graef-usa.com

GRAEF

collaborate / formulate / innovate



Wisconsin Ave. Transmission Main & Temporary Booster Station
 (in partnership with the City of Wauwatosa Water Utility)



Milwaukee Intermodal Station Passenger Train Concourse
 (with Alfred Benesch & Company, project team leader)

Amazing Projects | Amazing Teams | Amazing Results

USH 14 URBAN SAFETY AND TRAFFIC IMPROVEMENTS

MEAD & HUNT INC.

Client: Wisconsin Department of Transportation | **Category:** Transportation



TOP: Careful bridge reconstruction was essential to protecting the creek from contamination while also meeting traffic needs. **BOTTOM RIGHT:** The newly reconstructed road enhances the visibility of local businesses and ensures smooth traffic flow on a vital state highway.

Rehabilitation of major roadways is never a simple proposition but upgrades to a section of USH 14 required a unique amount of collaboration and expertise. The road was shared by the Wisconsin Department of Transportation and the village of Cross Plains, each with their own design ideas and requirements. There were also unique environmental factors to consider.

Mead & Hunt bridged this gap and delivered a stretch of road that exceeded everyone's expectations. The first step was to sit down with stakeholders to understand what items were necessary for success. Overall, the project featured five public meetings, a hearing, along with site visits and business walks.

The team then moved to put those features into action. Traffic flow on a busy section of a state highway was improved by reducing the number of direct access points to the road and reconstructing the signal intersections in the village. This phase also included the construction of two new bridges and met environmental concerns. As the main artery through Cross Plains, the village benefits by increasing pedestrian visibility on the road which was a concern for local businesses and restaurants.

But by far the biggest challenge was the environmental complications. Near the road is Black Earth Creek which is a federally-funded and protected waterway that is considered one of the best trout streams in Wisconsin. To protect the natural

resources, Mead & Hunt redesigned the roadway to avoid realignment of the creek and created a stormwater basin that would collect runoff from the road and keep it out of the creek.

Awards judge Matt Grove, PE, praised the project, saying "This project design demonstrated many aspects necessary to be considered an award-winning project. Stakeholder coordination, environmental concerns and innovation were all strongly considered and successfully implemented into the project."

Through careful consideration of local, state and environmental interests, the design team was able to redesign a safer roadway that enhances the environment and the village of Cross Plains.



WISCONSIN AVE TRANS MAIN & TEMP BOOSTER STATION

GRAEF

Client: City of Wauwatosa Water Utility | **Category:** Water & Stormwater



TOP: The temporary station was able to keep up with the demands of supplying 1.5 million gallons daily and no complaints were received. **BOTTOM RIGHT:** The pump was located in the median which allowed efficient operation and no disruption of traffic.

Some infrastructure changes are immediately apparent but others fly under the radar. The city of Wauwatosa, as part of the Zoo Interchange project, was required to relocate a water transmission main. Disabling the system would lead to insufficient water flow to an area that consumed 1.5 million gallons daily.

GRAEF devised a solution that maintained water flow but allowed construction on the Zoo Interchange to go ahead by designing a temporary water booster station. Without a booster station, water would not have been available during peak demand or for fire-fighting purposes in the west pressure zone, an area covering a major portion of the city. Additionally, two million gallons of water stored in the city's reservoir would have been wasted. The temporary booster's location was also tricky – it had to be in a spot that was inconspicuous and did not disrupt other construction projects but it also had to be within the bounds of the Zoo Interchange area in order to qualify for state funding. The design team worked around this by erecting the station in the median of a roadway which did not disrupt traffic. The temporary station was very effective in preserving water flow; not one complaint was had during the use of the station which was a key measure of project success.



Awards judge Jake Ehmke, PE said “This project extremely impressive for a variety of reasons. The high risk nature of the construction and repairs and the absence of public complaints/ inquiries were incredible on a project of this scope and magnitude. This project definitely deserved recognition as Best of State.”

Sometimes the goal of a project is to be inconspicuous. While that might not be true for a project as massive as the Zoo Interchange, that was exactly the goal with the temporary booster station. GRAEF effectively maintained water service and avoided interruption of any important functions.

INTRODUCING
**THE DAILY
REPORTER**

**2017 WISCONSIN
CONSTRUCTION SUMMIT
& GOLF EVENT**

The Daily Reporter's Newest Signature Event

**THURSDAY, MAY 4, 2017
at The American Club in Kohler, WI**

- Unique panel discussions
- Golf 18 holes at The Irish at Whistling Straits - ranked #35 in *GolfWeek's* 2015 Best Resort Courses & #47 in *Golf Digest's* 2015/2016 America's 100 Greatest Public Golf Courses
- Network with Leaders in the Industry



*A*the
American
club.
A KOHLER EXPERIENCE

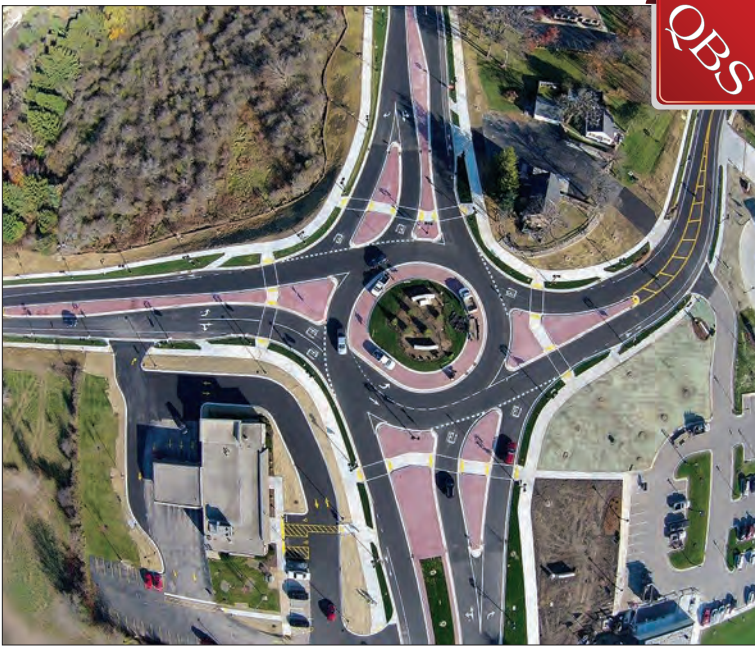
Limited Sponsorships & Attendance Available
Call Susan Quinn at 414-225-1844
or email squinn@dailyreporter.com for more details

Whistling Straits Irish Course
The American Club, Kohler, Wisconsin. Photo courtesy of Kohler Co.

39TH AVENUE, STH 165 TO 97TH STREET

ALFRED BENESCH & COMPANY

Client: Wisconsin Department of Transportation | **Category:** Transportation



The aerial view demonstrates the complexity of the roundabout, with multiple lanes and allowance for emergency vehicles and bike and pedestrian accommodations.

In trying to renovate a key portion of a state highway and local gateway, the Wisconsin Department of Transportation (WisDOT) and the village of Pleasant Prairie were faced with some unique challenges. Other construction projects threatened to derail a tight schedule, utility conflicts interfered with the necessary traffic requirements and environmental considerations had to be taken into account.

Alfred Benesch surmounted these hurdles with effective design solutions. Extensive coordination with all stakeholders allowed the project to move forward on time and avoided unnecessary delays from other construction. This also provided an opportunity to relocate the utilities and maintain service but no impair the design of the project. A roundabout was designed that would replace a previous intersection that both slowed traffic and was dangerous; the roundabout dealt with many problems like variable roadway widths and other irregularities. The design team used a laser screed machine which saved time and money and was one of the first uses of this machine on a WisDOT project.

Environmental challenges were also a concern because of the presence of a local stream. The design team created a rock check dam that prevented impact to the stream from construction and the new roadway design. Overall, the design team was the glue that held many parts together and resulted in a new, sustainable roadway that is safer and a welcoming gateway to Pleasant Prairie.

State Finalist Award

CTH D BRIDGE OVER FOX RIVER VILLAGE OF ROCHESTER, RACINE COUNTY

K. SINGH & ASSOCIATES INC.

Client: Racine County | **Category:** Small Projects



The final bridge is an attractive structure that allows for full use of the waterway below for both wildlife and people.

Bridges are an essential part of an infrastructure system and are frequently used past their expiration date. The CTH D Bridge in Rochester was an example of a failing bridge that needed immediate reconstruction. However, the bridge was located in the heart of the village and spanned a sensitive environmental area which made replacing the bridge very complicated.

K. Singh & Associates devised a solution that would replace the bridge while paying special attention to the unique complications on the site. The design team first met with all of the stakeholders to ensure that the project stayed on schedule, in order to mitigate the impact to the community from a vital bridge being under construction. The bridge's final design incorporated hybrid curb ramps and cast-in-place retaining walls that met structural requirements and a completion date two months ahead of schedule. Environmentally, the team designed a turbidity barrier near the center of the bridge to avoid disturbing fish habitats below. The final structure has a unique and innovative fish habitat under the bridge which significantly decreased its environmental footprint and benefits local wildlife populations.

Bridges are extremely important and require a great deal of care and attention. K. Singh designed a structure that met stakeholder's interests and will provide significant public benefits for years to come.

ENGINEERING FOR STRUCTURAL STABILITY IN BRIDGE CONSTRUCTION

COLLINS ENGINEERS INC. Client: Federal Highway Administration/National Highway Institute | **Category:** Studies, Research & Consulting Engineering Services



Experts provide training on the new manual to help attendees understand the importance of following improved standards.

An important part of engineering is having consistent standards across the board. These standards are designed to provide the safest product at the lowest cost and time expense. To this end, federal and state entities review data and set out guidelines to correct issues. One important issue is girder collapse during bridge construction. Collapse always impacts schedule and cost and frequently leads to injuries and fatalities.

Collins Engineers worked closely with the National Highway Institute to study the issue and devise a solution. The team reviewed the types of materials generally used, investigated the physics of girder bridges during construction and looked at typical practices. With this data, Collins developed a reference manual and associated training to address the issue. The manual discusses all of the items mentioned above and is designed so that readers can better understand the dangers and best practices associated with girder bridges. Alongside the manual, two separate training courses were designed for further education. Trainings encourage participant discussion and input. Collins has provided course instructors for these trainings, all of which have extensive experience with the girder bridge issues.

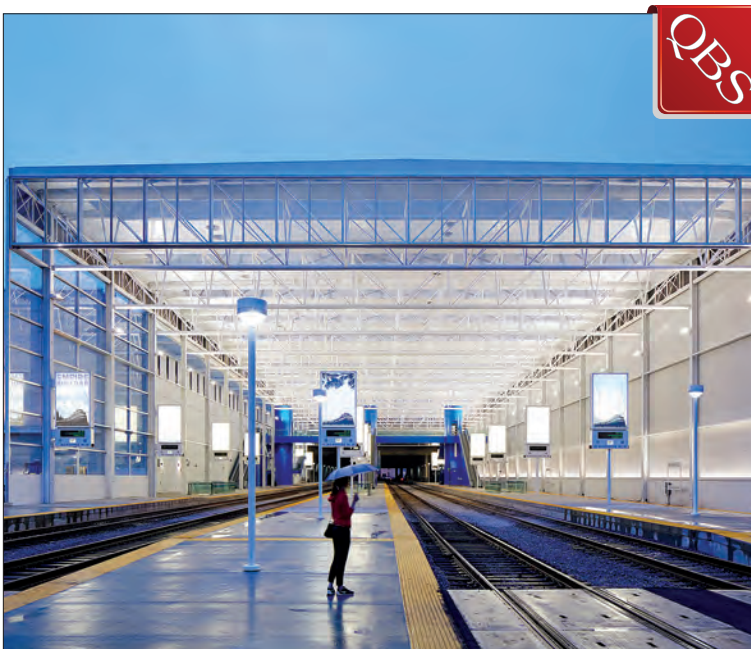
This collaborative effort saw a problem, used data to analyze it and then developed a training program to solve it. These solutions make design, construction and use safer and move the discipline forward.

State Finalist Award

MILWAUKEE INTERMODAL STATION PASSENGER TRAIN CONCOURSE RECONSTRUCTION

ALFRED BENESCH & COMPANY

Client: Wisconsin Department of Transportation | **Category:** Structural Systems



The new facility invites incoming travelers and creates an immediate good impression of Milwaukee.

Milwaukee has traditionally been a hub for transportation, whether for industrial goods, ships or people. The Intermodal Station in Milwaukee was in need of serious repair; it was not in compliance with ADA standards and was ineffectively laid out for new demand. The old facility also had to be modified before it could fit the city's vision of being a regional transportation hub.

Alfred Benesch began by completely reevaluating the needs and footprint of the facility. This required extensive coordination with federal and state transportation officials, the city of Milwaukee and multiple passenger and freight rail companies. The reconstruction of the station needed to accommodate all of the different requirements of a regional hub. The station was also updated to meet the needs of all passengers: ADA requirements were met through technological innovations and by facilitating travel via escalators and elevators. Hearing loop technology was added so that the hearing impaired could easily hear announcements and multiple guide stations were added with live train information. Natural lighting was added through massive skylights in the ceiling which lowered electricity costs and made the facility more inviting.

The design team worked to find a solution that could move Milwaukee to the future. While the city's tradition of being a transportation hub was never in doubt, it requires great facilities to move tradition into future.



Digital Marketing.

**Nobody Delivers
Like We Do.**

Propel Marketing is a one-stop shop for all your online marketing services, connecting local businesses with the people who matter most. We help our customers improve their bottom line by providing cutting-edge digital solutions and industry best practices.

With a full array of online marketing solutions, we can create the perfect mix suited to boost your business. Some of our services include:

- Responsive and Website Design
- Search Engine Marketing
- Search Engine Optimization
- Digital Display
- Social Media Advertising
- Direct Email Solutions
- Live Chat Leads

**Call Susan Quinn today at 414-225-1844
or email squinn@dailyreporter.com**

WEBSITES. MOBILE. SOCIAL. LISTINGS. SEARCH. SEO. REPUTATION.

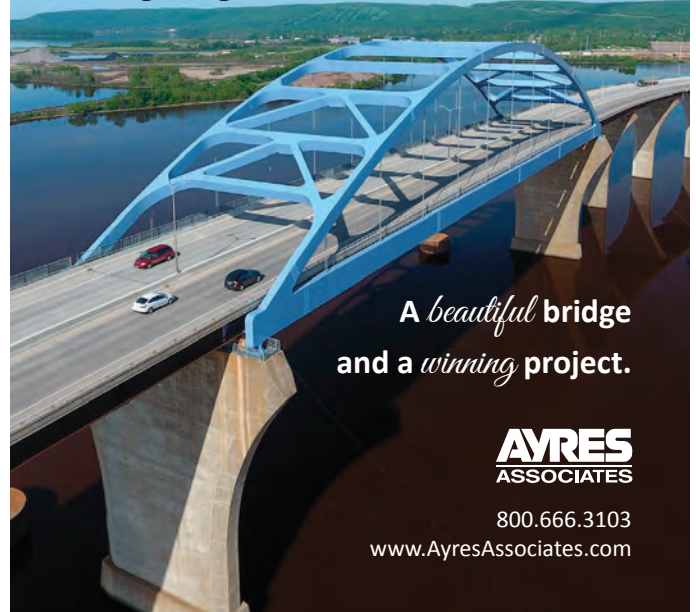
**THE DAILY
REPORTER**

Powered by
**PROPEL
MARKETING**

www.propelmarketing.com

Congratulations

to the Wisconsin Department of
Transportation, Northwest Region,
on the successful rehabilitation of the
Bong Bridge.



*A beautiful bridge
and a winning project.*

**AYRES
ASSOCIATES**

800.666.3103

www.AyresAssociates.com



A 100 year tradition

**For 100 years we have
been listening to and
understanding our
clients' needs. Our
goal is to help you turn
your ideas into reality.**

*Shopiere Road Interchange with
I39/90. Design by Batterman.*

Batterman offers:
Civil Engineering
GIS/Mapping
Land Development
Surveying
Transportation
Community Development
Construction Services
Local Roads
Site Planning

Batterman

engineers surveyors planners



Congrats to the 2017 ACEC Engineering Excellence Award Winners
and Future Leader Graduates, including our very own Ellyn Subak!

RHBatterman.com 608-365-4464

OSHKOSH BOATWORKS RIVERWALK/PARK REDEVELOPMENT

AECOM TECHNICAL SERVICES INC.

Client: City of Oshkosh | **Category:** Special Projects



The new boating facilities and trail allow residents to benefit from the river running through their city in ways that were unavailable before.

Many cities in Wisconsin are in a period of transition away from an industrial past. This creates problems with contaminated sites that are usually inappropriate for other uses and pose a barrier to redevelopment. Oshkosh was faced with river property that was designed with barge traffic and chemical usage in mind, an unsuitable use in today's economy and a severe detriment to a major natural resource.

AECOM worked with city, environmental and public stakeholders to redesign the area and make it a benefit for everyone. Boating facilities were created for recreational use on the river. This was an issue immediately because the site had to accommodate old industrial fill from when barges, not kayaks, populated the river. The site also incorporated re-vegetation on the shoreline and was made to be ADA accessible. In addition to the river utilization, the design team created a pedestrian bridge designed to look like other bridges in the area and paid homage to the city's industrial history. This bridge connects with a trail system and other amenities that bring citizens to the waterfront to enjoy the river and the associated park. These recreational improvements will benefit all residents substantially.

Through smart design and cooperation with multiple parties, AECOM was able to turn a contaminated eyesore into an economically beneficial and revitalized site.

State Finalist Award

RECONSTRUCTION OF SOUTH LAKE SHORE DRIVE OVER ABBEY HARBOR INLET

COLLINS ENGINEERS INC.

Client: Village of Fontana-on-Geneva Lake | **Category:** Small Projects



The new bridge reflects a local aesthetic and beautifies the surrounding area.

Small towns have acutely felt the crunch of a lack of infrastructure funding and deteriorating structures. When the Village of Fontana-on-Geneva Lake looked at one of their main bridges, they learned that what they thought was a pavement issue was actually a significant structural issue. The issue was so bad that an immediate bridge closure was necessary and the village scrambled to complete emergency repairs.

Collins Engineers evaluated the extent of the bridge issues. By cutting away the timber sheeting, the team learned that some of the pilings had lost more than 50 percent of their usefulness. The team worked closely with local stakeholders to design a plan that would allow the bridge to reopen as quickly as possible because of its key status as a transportation corridor. The team designed a shoring system that supplemented the existing pilings and supports and allowed the bridge to reopen while a permanent solution was found. An entirely new bridge which was designed with local aesthetics in mind. The new bridge was also designed and constructed under a strict timeframe dictated by the tourism economy of the area.

With some quick thinking, Collins was able to evaluate the problem, devise a temporary solution and then design a new bridge that the community can appreciate and feel safe using. Exactly the type of response and skills you want in an emergency.

Do you feel like something's missing?

Without The Daily Reporter, chances are you're not getting enough:

Project bid listings.

Construction industry news.

Sales lead opportunities from public notices.

**SAVE
\$36**



The Daily Reporter is in your mailbox five days a week with project bid listings and construction news PLUS you can visit us any time at dailyreporter.com.



Wisconsin's most powerful project bid tool is Job Trac. Powered by The Daily Reporter, this opportunity-filled online resource lets you search out your next projects anytime, anywhere. Find bids, track bid progress, run reports, set up bid alerts and more! Go to www.dailyreporter.com/jobtrac/ for more information.

Subscribe online! <https://subscribe.dailyreporter.com/GetMore2016>
Subscribe on the phone! Call 800-451-9998 and request Promo Code "GetMore2016"

**THE DAILY
REPORTER**

JobTrac
Search. Find. Bid.

FREE: Sign up for our daily Hard Hat email newsletter at DailyReporter.com
To advertise in The Daily Reporter, call 414-225-1844

STH 73 JUGHANDLE INTERCHANGE

DANE PARTNERS

Client: Wisconsin Department of Transportation | **Category:** Transportation



An innovative design shaped like a jug handle minimizes crashes and facilitates traffic flow between two major highways.

The redesign of the STH 73 interchange with US 12/18 checked a couple of boxes on WisDOT's list. The old design had a high crash rate from two dangerous intersections that created significant safety concerns. In addition, this interchange was on an alternative route for the stretch of I-39 that would be significantly renovated.

For an intersection valued at over 13 million dollars, multiple engineering firms combined their expertise as Dane Partners. The team developed a wide variety of options to evaluate before choosing one that would meet all of the goals: a jug handle interchange. This design eliminated left handed turns onto US 12/18 and eliminated the previous dangerous intersections. The design also reduces intersection conflict points. All of these innovations were designed to minimize crashes and to accommodate a growing amount of traffic that would be displaced from construction on I-39. Synchronizing these traffic systems was also a concern and it pushed an aggressive schedule forward for the STH 73 interchange. Designing an innovative interchange within these time constraints was difficult but the team managed to provide an excellent design within 24 months.

The new interchange substantially increased the safety of the area and met severe time and design constraints. Motorists now have this alternative route available during I-39 construction and the surrounding community benefits from a new and safe gateway.

State Finalist Award

USH 2 BONG BRIDGE REHABILITATION AND APPROACHES

AYRES ASSOCIATES

Client: Wisconsin Department of Transportation | **Category:** Structural Systems



The rehabbed structure connects Superior, WI and Duluth, MN and serves over 20,000 vehicles a day.

An old structure, a unique design and a 1.5 mile span were all features of the Richard Bong Memorial Bridge linking Wisconsin and Minnesota in the northern part of the state. In addition, the bridge spanned a busy marine area and provided for 20,000 vehicles a day which constrained the footprint of the design.

Ayres Associates designed much of the original bridge; therefore, they were uniquely aware of how much work needed to be done during the first rehabilitation in 30 years. The design team went into the project knowing that it needed to preserve the visual feel of the bridge due to its iconic status in the community. The team worked with local stakeholders to complete rehabilitation within the constraints of the original design. One of the critical areas of improvement was the bridge approaches – these were worn down and intersections had become more dangerous as the amount of traffic increased. By upgrading the pavement and replacing an intersection with a roundabout, safety was improved along with traffic flow. The bridge itself benefited from a pavement replacement and a tune up on the suspender cables.

The final project was delivered months ahead of schedule and under budget which testifies to the design team's efficiency. This major rehabilitation should allow users to benefit from the bridge for at least the next 30 years.

UV DISINFECTION FACILITY

CDM SMITH INC.



The UV facility utilizes a small footprint to treat water contaminants that might slip through traditional disinfection methods.

Client: Sheboygan Water Utility | **Category:** Water Resources

Water, the kind we use every day, can have a lot of issues that arise that make it unsafe to use. The Sheboygan Water Utility decided to take a proactive approach to its citizens' health by enacting new procedures to reduce the risk of bacterial issues like cryptosporidium.

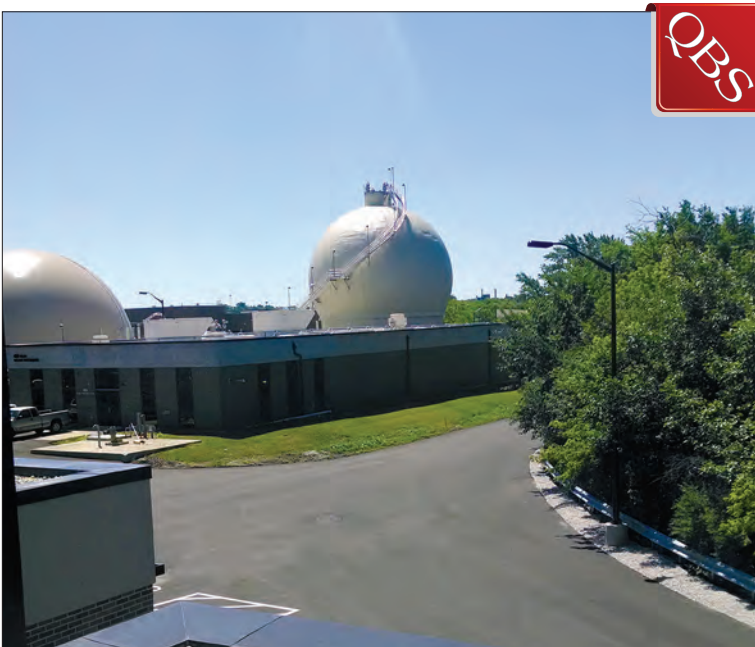
CDM Smith designed a new UV disinfection facility that would provide a multi-barrier disinfection approach and was uniquely suited to dealing with bacteria. One of the main issues was the small site plan – the existing treatment plant is located on Lake Michigan and does not have room for serious expansion. By reexamining space previously thought to be unusable, the design team was able to install a separate UV facility that also reduced the need for intermediate pumping. The gains in efficiency allowed the plant to stay in operation during construction and be finished on schedule. Another major improvement was close coordination with state officials to create a memorandum of understanding that allowed the facility to receive environmental credits from the state for its UV facility. This joint discussion and design was the first in Wisconsin and sets a precedent for future treatment plant projects.

Through clever siting and careful negotiation, the design team was able to meet client expectations and provide even safer and more reliable water for the population of Sheboygan.

State Finalist Award

WAUKESHA CLEAN WATER PLANT IMPROVEMENTS

STRAND ASSOCIATES INC.



The new egg digester centralizes the biodigestion process by efficiently disposing of biosolids and other contaminants.

Client: City of Waukesha | **Category:** Water & Stormwater

Engineers triumph when they deliver facilities that exceed client expectations and don't come with a hefty price tag. Waukesha needed a limited but effective redesign that would modernize its processes, replace aging infrastructure and allow for future expansion.

Strand Associates designed an improvement schedule that would meet needs for at least 20 years without passing down major tax increases to residents. To do this, the design team utilized technological innovations to meet expectations. By using an egg shaped digester instead of the usual sphere, it was able to more efficiently process biosolids and reduce the total number of digesters needed. Other improvements were targeted towards improving process control by updating storage facilities, administration controls and improved monitoring stations. There was additional pressure on the facility because Waukesha was recently approved to use Lake Michigan water, a first for a community not located on the waterfront. This required an intricate, multi-state and international approval process and high-quality water processing was necessary for that water to be returned to the lake, a cornerstone of the agreement. Waukesha's success in this would be the guidepost for future agreements.

With an eye towards ecological stewardship and future benchmarks, Strand redesigned many systems across the entire plant that combine to revolutionize Waukesha's water treatment for decades.



www.qbswi.org

QUALIFICATIONS-BASED SELECTION (QBS)

When Quality and Value Matter

Lifecycle Costs of a Typical Project

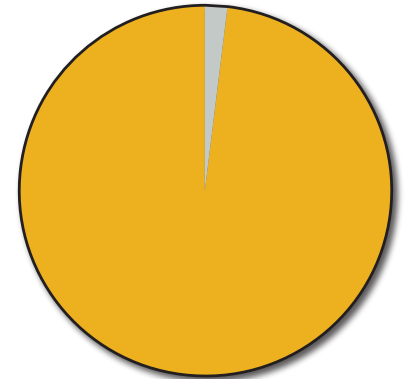
engineering vs construction & maintenance costs

QBS FAQs

Hiring a professional engineer or architect for your project? Use Qualifications-Based Selection to get the best overall value for your project.

When anyone is faced with an engineering or architectural need, the most important decision for the project's success is the selection of a qualified professional engineering or architectural firm.

Why? Actual engineering costs make up a very small percentage of a project's total life cycle costs, yet this decision influences the level of success for every project element. These include site selection, design alternatives, budget, schedule, permits, aesthetics and operating costs, to name a few.



Engineering Costs 2%
Construction & Maintenance Costs 98%

Qualifications-Based Selection is a proven process to help owners find the highest qualified architectural or engineering firm for their projects. It is an objective, fair, defensible and competitive selection process based on qualifications related to your project.

Experience by federal and state agencies and many municipalities has shown using QBS is more efficient, more effective and less costly in the long run than bidding the work.

The QBS Process

1. Planning
2. Selection
3. Negotiation

For details, check out the QBS Manual on www.qbswi.org.

How does one select a design professional?

For information on the QBS selection process, frequently asked questions and the benefits of Qualifications-Based Selection visit www.qbswi.org. In addition, QBS Wisconsin will provide, at no charge, a facilitator to help owners learn about the QBS process.

Which organizations use QBS?

- American Bar Association
- American Council of Engineering Companies
- American Institute of Architects
- American Public Works Association
- Federal Highway Administration
- National Society of Professional Engineers
- U.S. Army Corps of Engineers
- Wisconsin Association of School Boards
- Wisconsin Department of Natural Resources
- Wisconsin Department of Transportation
- Wisconsin Division of Facilities Development
- Wisconsin League of Municipalities
- Wisconsin Rural Water Association
- Wisconsin Towns Association

Does the bid law apply to the hiring of an architect or engineer?

The bid law for local units of government only applies to construction contracts. It does not apply when hiring engineers, architects and other professionals to work on municipal projects.

The QBS Wisconsin program is jointly supported by:



316 Washington, Suite 950
Madison, WI 53703-4204
(608) 257-9223
Fax: (608) 257-0009
Email: acecwi@acecwi.org
www.acecwi.org



321 S. Hamilton St.,
Madison, WI 53703-4000
1-800-ARCHITECT
Toll Free in Wisconsin or (608) 257-8477
Fax: (608) 257-0242
E-mail: aiaw@aiaw.org - www.aiaw.org

TOP PROJECTS

OF 2016

- Hundreds of entries • 40 annual winners
- Over 700 attendees • **ONE MAJOR EVENT**



TUESDAY, MAY 16, 2017

@ Potawatomi Hotel & Casino

Sponsorship & Tickets

Now Available

Contact Susan Quinn - 414-225-1844 or squinn@dailyreporter.com

Professional Engineering Member Firms

<p>AECOM Alfred Benesch & Company American Engineering Testing Inc. Applied Technologies Inc. Ayres Associates Baudhuin Incorporated Baxter & Woodman Inc. Becher-Hoppe Associates Inc. Berners-Schober Associates Inc. Bloom Companies LLC Brander Construction Technologies CBS Squared Inc. CDM Smith Inc. CH2M Hill Inc. Civil Engineering Professionals Clark Dietz Inc. Collins Engineers Inc. Computerized Structural Design S.C. Cooper Engineering Co Inc. CORRE Inc. Davy Engineering Co.</p>	<p>Donohue & Associates DLZ Wisconsin EMCS Inc. exp. Fleming, Andre & Associates Inc. Foth Infrastructure & Environment LLC Fusion Integrated Solutions LLC Gannett Fleming Inc. GESTRA Engineering Inc. GHD Inc. Giles Engineering Associates Inc. Globetrotters Engineering Corporation GRAEF Gremmer & Associates Inc. Harwood Engineering Consultants Ltd. HDR Engineering Inc. Himalayan Consultants LLC I & S Group IIW, PC J3 Engineering Group LLC Jewell Associates Engineers Inc.</p>	<p>JNI Engineering JT Engineering Inc. K. Singh & Associates Inc. KL Engineering Inc. Knight E/A Inc. Lakeside Engineers Larson Engineering Inc. Lynch & Associates Engineering Consultants LLC Mead & Hunt Inc. MEP Associates LLC Meyer Borgman Johnson Michael Baker International Miller Engineers & Scientists MSA Professional Services Inc. Muermann Engineering LLC OMNI Associates Oneida Total Integrated Enterprises LLC Patrick Engineering Inc. Precast Engineering Company Professional Project Services Inc. Professional Testing Services</p>	<p>QUEST Civil Engineers LLC R.A. Smith National Inc. R.H. Batterman & Co. Inc. REI Engineering Inc. Rice Engineering Inc. Ruekert/Mielke Inc. Saga Environmental and Engineering Inc. Short Elliott Hendrickson Inc. Singh & Associates Inc. Snyder & Associates Inc. Spire Engineering Inc. SRF Consulting Group Inc. Stormwater Solutions Engineering LLC Strand Associates Inc. Terracon Toki & Associates TRC Environmental Corporation Zepnick Solutions Inc.</p>
---	---	---	---

Affiliate Member Firms

<p>ACEC Business Insurance Trust ACEC Life Health Insurance Trust Ames & Gough Autodesk Axley Brynolson LLP BenefitWorks</p>	<p>CAD Technology Center Inc. Flad Affiliated Corporation Gilbane Hausmann-Johnson Insurance Holmes Murphy & Associates HUB International</p>	<p>IMAGINiT Technologies Johnson Insurance Services MasterGraphics Inc. Mathy Construction Company O'Neil, Cannon, Hollman, DeJong, Laing SC Schenck SC</p>	<p>Seiler Design SilverEdge Systems Software Inc. T. Wayne Owens & Associates The Daily Reporter Willis A&E Wisconsin Concrete Pavement Association</p>
--	---	---	---

Great Communities Deserve
Quality, Award-Winning Design

70th
STRAND
ANNIVERSARY

Serving as a trusted full-service
engineering resource to clients
across Wisconsin for more than
70 years.

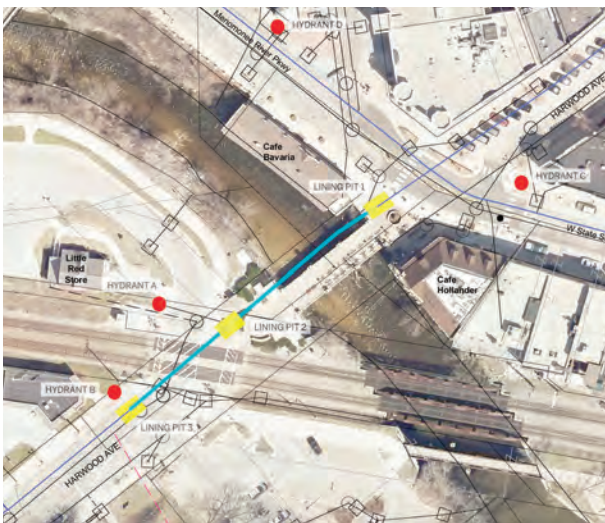
Municipal/General Civil
Wastewater
Water Supply
Transportation
Buildings and Facilities
Green/Sustainable Solutions
Aviation



www.strand.com
608-251-4843

11 Locations Nationwide

Building a Better World for All of Us[®]



A 'BEST OF STATE' IN THE HEART OF WISCONSIN

When the City of Wauwatosa Water Utility needed to rehabilitate a water main crossing from 1897 under the Menomonee River in the heart of the Village business district, SEH was there with a low-cost, long-lasting solution featuring an innovative trenchless camera — a Wisconsin first.

Congratulations to the City for winning ACEC of Wisconsin's Best of State award for this project.

sehinc.com

800.325.2055



Engineers | Architects | Planners | Scientists



A BIM PARTNER THAT
ENSURES YOUR SUCCESS



BIM TECHNOLOGY IS EVOLVING. ARE YOU EVOLVING WITH IT?

Get a Tactical Advantage with MasterGraphics!

As a professional in the Architectural, Engineering, and Construction industry, you have your hands full keeping your clients happy & delivering your projects on time & on budget. Your technology, workflows, processes, and people should **ENABLE** these outcomes, not become a barrier. But how do you know if you're *truly* leveraging your tools to their fullest potential or even using the right tools?

We have been helping clients like you for over 65 years fully adopt their technology, improve their processes, and develop workflows that build a competitive advantage into **EVERY PROJECT** you deliver. Leverage our diverse experience to help identify and eliminate your gaps today!



WHERE ARE YOUR GAPS?

Get More Information About Our Experience
& Our Design Process Assessment today at:
www.mastergraphics.com/bpa



BENEFITS OF A MASTERGRAPHICS PARTNERSHIP

Reduce Project Rework

Leverage Industry Best
Practices

Outperform Your
Competition

Elevate Your BIM Game

Streamline Collaboration

Fine Tune Staff Skills

Enhance Stakeholder
Experiences

Fully Adopt Your
Technologies