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TOWN OF RISING SUN CHESTER WATER SYSTEM INTERCONNECT GARNERS TOP AWARD IN ACEC/MD ENGINEERING EXCELLENCE AWARDS COMPETITION

The American Council of Engineering Companies/Maryland (ACEC/MD) is pleased to announce that KCI Technologies, Inc. received the **Grand Award** in the 2020 ACEC/MD Engineering Excellence Awards (EEA) competition for

the *Town of Rising Sun Chester Water System Interconnect*. The fifteen finalists in this prestigious competition were recognized for diverse accomplishments that exemplify today's engineering challenges.

(continued on page 3)



2020 GRAND AWARD
KCI Technologies Inc. • Town of Rising Sun - Chester Water System Interconnect

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PRESIDENT'S MESSAGE

by Alan Straus

While it might sound repetitive, I do hope this newsletter finds you, your family, and your colleagues safe and healthy. I know these past weeks have been a challenge for all of us personally, professionally and socially, but I am simply amazed at what our community has been able to accomplish in the face of immense challenges. In addition to keeping an eye on how our industry is being impacted, I have been listening to what our member firms and others in our broader industry are doing in response to the pandemic. For the most part, all of us have been able to dramatically pivot to a new way of working, while keeping our teams safe and keeping our productivity level high. Our industry was deemed essential in nearly all geographies and we didn't miss a beat. However, as you know, our work is just beginning. I am not an economist or an historian, but throughout American history, infrastructure improvements, spending, and investment have been key elements to economic stimulus and recovery. We need to continue to educate our local, state and national leaders about the importance of infrastructure spending, to support projects ranging from planning through design and construction. Likewise, we need to continue to prepare for an eventual spending package. ACEC and ACEC/MD will play important roles in this lobbying effort, but I ask each of you not to rest, and engage your local, state and federal leaders in this discussion.

As you know, for the first time in modern history, the Maryland General Assembly ended more than two weeks early and did not complete the constitutionally designated annual legislative session. After the decision to adjourn was announced by the Senate President and Speaker of the House, the members rushed to deal with high priority and essential legislation. Additionally, the General Assembly leadership decided not to hold a special session. The General Assembly did pass two emergency bills in response to the COVID-19 pandemic, which allowed the Governor to draw up to \$50 million from the Rainy Day Fund to provide job protections for employees who require quarantine and expand eligibility for unemployment benefits, among other pro-



tections. The Governor also established loan and grant funding, predominantly for small businesses, which will provide much needed support as many of our member firms are small and minority-owned businesses. We also saw passage of the Certificate of Merit bill, an ACEC/MD legislative priority for the last few years. Unfortunately, the Indemnity-Duty to Defend bill we strongly supported was not brought to a vote during the hurried last two weeks of the session. While we are disappointed, I do feel we gained a lot of momentum and will continue to work this issue prior to and during next session. Please continue to push for action on this issue by sending examples and engaging with your legislators. For more information on these and all the bills our Legislative Committee reviewed, please visit the ACEC/MD website.

I was very pleased to participate in this year's ACEC/MD Awards ceremony. I was specifically proud to present the President's Award to the Administrator of the Maryland Motor Vehicle Administration, Chrissy Nizer. Chrissy embodies so many of the values of ACEC/MD and our industry. She continues to serve the citizens of Maryland with distinction by providing extraordinary leadership, inspiration and innovation. We hope to continue seeing her at our events. Once again, I thank our members for nominating so many terrific projects and professionals for our awards. It is an awesome reminder of the incredible work and professionalism we collectively bring to our clients and to the citizens of Maryland.

ACEC/MD also pivoted to serve our members and clients. With tremendous help from Barb and Jim and our extraordinary committee chairs and volunteers, the business of ACEC/MD has continued:

- All committees immediately shifted to virtual settings, successfully using various collaborative tools and conference calls
- We helped establish a regular briefing with the MDOT TBUs, through a partnership with other MDQI participating organizations
- We continued to establish the MDOT Partnering working groups and attend their meetings
- We continue to meet with the Procurement section of MDOT SHA to work through our many questions and suggestions
- We continued to meet with County and other local government representatives through the County Liaison, Environmental and Utility committees
- New challenges were placed on several committees, including the Public Relations committee to scour the dozens of news briefing and information released daily and ensure our members stay well informed
- We've had to make some adjustments to the calendar, to the events and processes, but we remain a strong and active organization locally and nationally.

As we continue to navigate this unprecedented time, I again wish you all well. No one really knows when we will be able to gather in person again, but until then and beyond, we will continue to use our tremendous resourcefulness, partnerships, and ingenuity to push forward. I will miss being with you at all of the terrific ACEC/MD events, that unfortunately have been cancelled, postponed or converted to a virtual gathering, and I am particularly disappointed that our trip to Nashville for the annual conference has been cancelled. While we can't be together, we must continue to partner to succeed in delivering our essential services and to lobby for the economic stimulus and recovery efforts.



ACEC/MD 2020 ENGINEERING EXCELLENCE AWARDS

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GRAND AWARD

KCI TECHNOLOGIES INC.

Town of Rising Sun - Chester Water System Interconnect

Since 1990, the Town of Rising Sun in northeast Maryland has more than doubled its population. Town management has struggled to supply enough water to meet growing demand. Local aquifers are unable to sustain the current population, with the five town wells producing less than half the needed flow. With no feasible sources within the county, Rising Sun negotiated an agreement with the Chester Water Authority (CWA) in Pennsylvania to meet the town's water supply needs for the foreseeable future. KCI partnered with public works officials to meet grant funding requirements and coordinate the design and construction of a five-mile water main to connect CWA's water system to the town's infrastructure network. The firm also provided full-service design, permitting, and construction inspection services for the one-mile section located in Maryland.

Engineers used complex hydraulic modeling to ensure that water quality was maintained over a distance estimated at 10 times the typical span between treatment plant and tap. It was critical to optimize the process and eliminate additional mechanical equipment to minimize construction costs and required future maintenance. Other challenges included complying with both states' regulatory requirements, combining two different water systems, coordinating privately-owned right-of-way, and facilitating timely contractor payment.

KCI's team identified design efficiencies that saved the town more than \$1.5 million by eliminating a redundant 900-foot section of pipe. The municipality plans to dedicate those funds toward extending its infrastructure to provide nearby homes/business/schools with clean drinking water; many of them face water quality issues from their on-site

well sources. With construction complete, Rising Sun residents and businesses can finally enjoy unrestricted access to water with the knowledge that their families and town can continue to grow.

AWARD OF EXCELLENCE

BRUDIS & ASSOCIATES INC.

Garretts Mill Road Design-Build Bridge Replacement

Garretts Mill Road is a residential roadway with an average daily traffic of 800 vehicles per day that crosses Israel Creek in Knoxville, Maryland. The bridge was heavily damaged by 16 inches of rain on May 15-16, 2018, so the roadway was closed to traffic. This resulted in significant detours for emergency services. Additionally, the site had limited right-of-way, and utilities tight to the roadway.

The project involved removing the damaged bridge and cleaning up the site; and designing, permitting, and constructing a replacement structure and approach roadway. The client issued a Design-Build RFP

to solicit a rapid replacement (8.5 months from RFP to substantial completion).

As the Lead Designer to Building Systems, Inc., Brudis and Associates, Inc. (BAI) performed design and construction oversight for the removal and replacement of the 23'-0" x 14'-6" concrete slab and integral steel beam bridge and the adjacent roadway. BAI recommended a 26-foot span precast reinforced concrete CON/SPAN® O-SERIES arch bridge placed on subfoundation concrete keyed into the bedrock.

The project was split into two submittals to expedite the permit approval process. The first submittal was categorized as emergency permitting and finalized in 45 days, allowing construction to start. BAI expedited the span length and selection of the precast arch prior to completion of the final design package to ensure the fabricator could develop shop drawings and cast the elements before the contractor finished subfoundation concrete placement. Meanwhile, the remaining design elements were completed, with all permits, in 105 days.

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Brudis & Associates Inc. • Garretts Mill Road Design-Build Bridge Replacement

ACEC/MD 2020 ENGINEERING EXCELLENCE AWARDS

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Greenman-Pedersen Inc. • MD 355 over the Monocacy River Emergency Repairs

After site dewatering issues were overcome, construction was completed in six weeks. This was made possible through the use of 100% precast elements for the bridge.

MD 355 over the Monocacy River Emergency Repairs

In December 2017, a heavily traveled truss bridge over the Monocacy River was crippled by a severe vehicular collision. The loss of four “fracture-critical” members could have led to a catastrophic failure. Fortunately the bridge held, but its residual load-carrying capacity was unknown. Unlike most modern engineering projects,

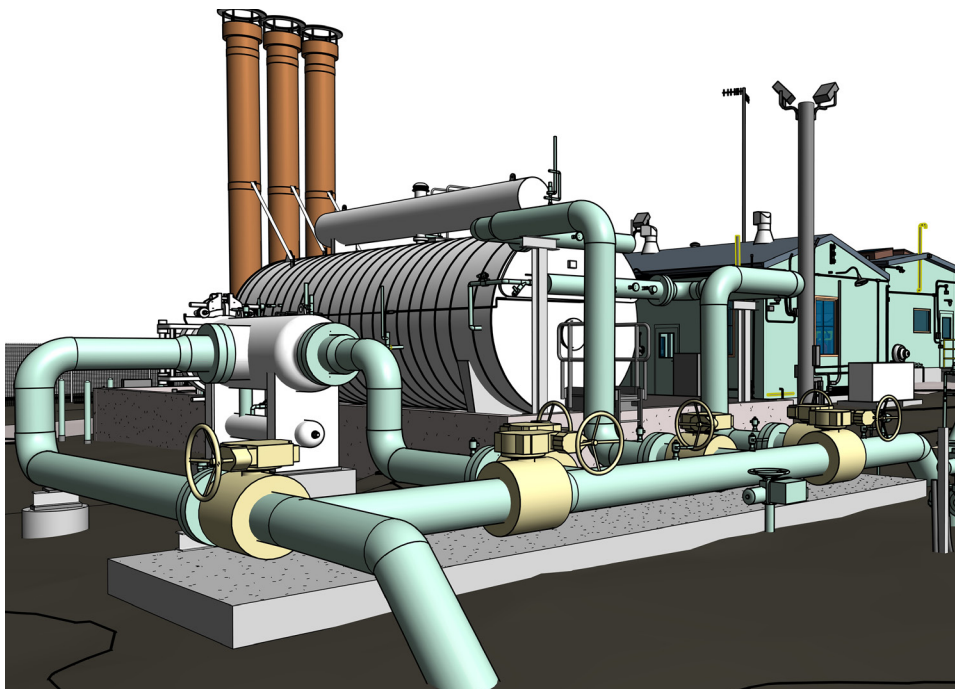
there was no roadmap or standard details for how to proceed with stabilizing and repairing the bridge. The design team used collaboration, innovation, ingenuity and advanced modeling to develop a case-specific rehabilitation approach.

A combination of 2D and 3D modeling was performed to evaluate the stability of the damaged bridge. Stabilization details were developed utilizing scrap materials that the client had available as leftovers from past projects. Additional scrap materials were employed to construct the massive jacking frame needed to reposition the damaged truss and “reload” the replacement members. 3D modeling and strain gage instrumentation were utilized to capture the complex behavior of a bridge with atypical details and asymmetric damage. After the repairs were completed, a live load test was performed which illustrated the resounding success of the analysis and repair operations.

The project team was able to repair and reopen the bridge after only 36 days (60% of the Client’s estimate to the public). The expedited timeframe and use of available materials also limited the cost associated with the rehabilitation.

OUTSTANDING PROJECT AWARDS

GREENMAN-PEDERSEN INC.



KCI Technologies Inc. • BGE Gas Gate and Regulatory Station Mapping and Modeling Pilot

KCI TECHNOLOGIES INC.

BGE Gas Gate and Regulatory Station Mapping and Modeling Pilot

Baltimore Gas and Electric (BGE) was experiencing issues with accurate records of its infrastructure, as well as outdated information when repairs or upgrades to their sites were completed. Conflicts with unmapped or abandoned utilities/substructures can be deadly to field crews and the public, and inaccurate data can lead to significant issues with abandoned infrastructure or unexpected field conditions, causing construction delays and budget overruns, impacting the ability to meet customer demand, and resulting in unsafe conditions with potentially devastating consequences. KCI piloted two new technologies—the innovative geophysi-

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Rummel, Klepper and Kahl, LLP (RK&K) • I-895 over Patapsco River Flats Superstructure Replacement

cal AM Gradiometer and the Microsoft HoloLens—to detect, map, model and visualize infrastructure in and around four natural gas facilities. Engineers combined results from a cutting-edge subsurface utility engineering approach that uses AM radio waves with LiDAR and survey grade drone data to create 3D existing conditions mapping.

By piloting these innovative technologies and approaches, KCI was able to establish and employ a new, more efficient and more accurate approach to mapping above and below ground facilities. The models and augmented reality platform, a first for BGE, serve as a foundation for asset management that can be easily updated, will improve the design, offer training opportunities and facilitate future development of digital dashboards for lifecycle and operations management.

RUMMEL, KLEPPER AND KAHL, LLP (RK&K)

I-895 over Patapsco River Flats Superstructure Replacement

The Patapsco Flats Bridge, built in 1957 and located on I-895 within MDTA's Baltimore Harbor Tunnel Facility, carries many thousands of vehicles per day. The existing bridge superstructure was in poor condition (NBI rating of 4), and the existing substructure was in fair condition.

RK&K began by investigating the superstructure rehabilitation and replacement options. Study phase goals included:

- Evaluate the superstructure rehabilitation options such that the bridge would not have to undergo any repair/rehabilitation for a minimum of 15 years.
- Evaluate reuse of the existing substructure.
- Reduce the number of bridge joints by evaluating continuity of existing simple spans, thus providing a more durable structure.
- Develop construction methods to keep equipment and material off the ground in a sensitive environment.

The challenge was to develop a bridge replacement structure that could be made continuous to reduce the number of joints,

and therefore its complexity, while retaining the existing substructure. The design team sought an innovative solution using high-performance construction materials that would result in a lightweight yet durable structure for replacement.

Based on the results of the study phase, a full superstructure replacement with steel girders and steel grid deck partially filled with all-lightweight concrete, was selected for the replacement structure. The overall weight of the superstructure was reduced by 43%. This reduction helped achieve continuity of the simple spans into 2-span units, eliminating half the joints and allowing reuse of the existing substructure. The use of grid deck reduced the deck placement time by 38%, and the reuse of the existing substructure avoided construction activity in the environmentally-sensitive areas, while reducing construction duration and extending the life of the existing substructure.

SHELADIA ASSOCIATES INC.

World Bank Country Office

The new World Bank facility in Kabul, Afghanistan, stands as the strongest manifestation of the organization's regional commitment in Asia. Careful thought was given to every aspect -- from planning to design through construction, including state-of-the-art blast resistant features. The staff's safety and security were of utmost priority; thus, the requirements included a residential component which enabled all visiting mission personnel to be housed within the compound. Further, all occupants required a safe area refuge in case of an external threat. This sharpened the design focus from just an office building to a 24/7 live, work, eat, sleep, and relax environment. Quality of life for occupants was a key driver of the details of the design.

LIVE - The living component includes 30 suites, located in two basement levels, that are designed with guest comfort in mind.

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ACEC/MD 2020 ENGINEERING EXCELLENCE AWARDS

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Sheladia Associates Inc. • World Bank Country Office

WORK - The office component incorporates state-of-the-art communication, current trends in dynamic work environments, and elements from local art and culture such as prayer rooms.

RELAX - A plethora of spaces and amenities have been provided, including sunken courtyards, outdoor plazas with fruit trees, a gymnasium, and a sky lounge.

GREEN - This is the first LEED building in Afghanistan, attaining Gold certification. Strategies included solar panels, grey water recycling, rainwater harvesting for irrigation, and use of local materials and methods such as adobe plaster.

CONSTRUCTION - In keeping with World Bank's mission, the project was built by an Afghani contractor, primarily using

local labor. More than one million labor hours yielded an incident-free facility.

The project is a testimony to all the stakeholders working collaboratively towards a common goal.

WSP

Fort McHenry Tunnel (FMT) Lighting Replacements

This project replaced the tunnel's fluorescent lighting system with a modern Light Emitting Diode (LED) lighting system featuring dynamically-adaptive dimming controls, improving safety and security while modifying the system to meet current Illuminating Engineering Society (IES) recommendations and National Fire Protection Association (NFPA) requirements. Innovative applications included Power Line Communication (PLC) Lighting Controls and Phenolic Conduit with Fire Rated Cable.

The extraordinarily harsh environment of the tunnel -- including corrosion caused by saltwater, chemicals in exhaust fumes, and coal dust from nearby piles -- required highly complex criteria for the lighting fixtures and fire-rated electrical circuits to achieve the project goals. Use of the PLC controls is out-of-the-ordinary in the U.S. yet provided the most economical option for connecting tunnel lighting fixtures with a highly functional control system.

The design documents promoted the most cost-effective solution by providing highly-detailed performance specifications, allowing competition among several manufacturers of materials that otherwise may have been proprietary, such as light fixtures, phenolic conduit, fire-rated cable, and control system. With high competition, the winning bid was 70% of the established budget while meeting the required schedule. The new lighting control system significantly decreases maintenance costs by notifying maintenance staff when lights are out, showing the exact locations of fixtures that have issues, gradually increasing light output over



WSP • Fort McHenry Tunnel (FMT) Lighting Replacements

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time to account for dimming due to maintenance factor, and limiting light output to increase lamp lives to 18 years.

The LED lighting consumes half the energy of the existing system -- an approximate \$1 million annual saving -- and increases component functional duration by approximately 3,600%.

HONOR AWARDS

A. MORTON THOMAS AND ASSOCIATES INC.

Western Maryland Hiker-Biker Trail Phase IV

The Western Maryland Rail Trail is a unique multipurpose facility that provides a diverse set of users with an immersive scenic experience while promoting a healthy lifestyle. The most recent extension of the trail, a three-mile project known as Phase IV, demonstrates how creative engineering and environmental awareness can come together to achieve progress and preservation simultaneously. The project team faced multiple challenges, including the discovery of an endangered species habitat and the need to retain historic architecture while ensuring user safety.



A. Morton Thomas and Associates Inc. • Western Maryland Hiker-Biker Trail Phase IV

When an endangered bat population was discovered in a tunnel through which the trail was originally intended to pass, a steel gate was designed and placed at the tunnel's entrance to prevent trail users from entering but allow the animals to come and go freely. The team also implemented two bridges that routed users around the tunnel and further prevented any disruption to the bat population.

Innovative design and material selection were utilized when navigating rehabilitation of the historic Sideling Hill Creek railroad bridge; with the use of CIP decking, concrete beams, and guardrails, the bridge became a safe means of passage for trail-goers while preserving its original character. The design used for this rehabilitation will be implemented in all future trail extensions that involve railroad bridges.

Once opened in March 2019, Phase IV experienced immediate heavy use by the surrounding communities and nature enthusiasts. The extended trail has provided benefits to the counties where Phase IV is located, as they rely on recreational tourism as a major economic driver, while paying tribute to the history of railroad transportation in the Potomac River Valley and beyond.



Century Engineering Inc. • MD 355 at Cedar Lane Improvements

CENTURY ENGINEERING INC.

MD 355 at Cedar Lane Improvements

Century's work on the expansion of the MD 355 and Cedar Lane intersection and surrounding roadway network aligned with the company's purpose to set a new standard for responsible partnership by nurturing connections with the clients and communities being served.

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Henry Adams LLC • Center for Performing Arts at Prince George's Community College

The consolidation of the Walter Reed Army Medical Center and the Bethesda Naval Medical Center under the 2005 Base Realignment and Closure Act relocated 2,500 employees and increased patient/visitor count by 1,862 each day. An increase in traffic to this key intersection required extensive planning in order to safely integrate intersection improvements with pedestrian paths and other facilities in the Bethesda community. Century involved NIH, WMATA, M-NCPPC, Stone Ridge School, Boy Scouts of America, and other stakeholders impacted by the construction and implementation by hosting public outreach meetings throughout all phases.

The site demanded a multimodal approach to harmonize the increased vehicular capacity with the pedestrian, transit and bicycle traffic needs. This highly traveled intersection's proximity to new culverts, stakeholders' entrances, and the extensive utility presence all contributed to project complexity.

In order to address complexity with innovative engineering, Century's team alleviated congestion at an adjacent intersection using a leading-edge dynamic lane control signal. The use of 3D modeling also permitted superior design coordination of the culverts,

drainage, relocated utilities, and construction phasing by virtually building the project prior to the contractor breaking ground.

Ultimately, this project effectively improved the functionality, safety, and efficiency of MD 355 at Cedar Lane through the development of innovative engineering solutions that combined quality and creativity with dedication, responsiveness, and commitment to all stakeholders.

HENRY ADAMS LLC

Center for Performing Arts at Prince George's Community College

The Center for Performing Arts is an \$88 million, 173,000 SF LEED Gold renovation and expansion project. This prominent facility, one of the largest buildings on campus, contributes significantly to the college's mission of creating environmentally healthy and safe places for students, faculty, staff, and the community.

The Center connects Prince George's Community College (PGCC) to neighboring communities, encouraging community involvement and support. The new facility uplifts, empowers, and encourages creative-minded students by offering workforce development, student services, and community outreach programs.

A project of this magnitude had a myriad of challenges. The intricate, phased renovation was tricky because the building remained occupied throughout construction. The major challenges facing MEP design for phased occupied renovations were keeping systems operational and providing for a safe and suitable work environment for the building occupants. The project required close coordination between many different disciplines to become a reality. The design team utilized 3D modeling techniques in order to produce visuals of how certain aspects of the building could function together and tie in to become one cohesive element.

As a LEED Gold certified project, the design encompassed various sustainable features. Local and regional materials with high recycled contents were used for construction. Recycling of construction waste was also mandated. The rooftop features solar panels which create energy savings of 26 percent. The use of flow restricting fittings for lavatories and showers, as well as self-closing faucets uses less water, reducing water by 30 percent.

The Center for Performing Arts is a striking addition to the college's campus that serves over 44,000 students annually as they reach for the stars and make their dreams come true.

MCCORMICK TAYLOR INC.

Piney Grove to Wattsville 69 kV Transmission Line Rebuild

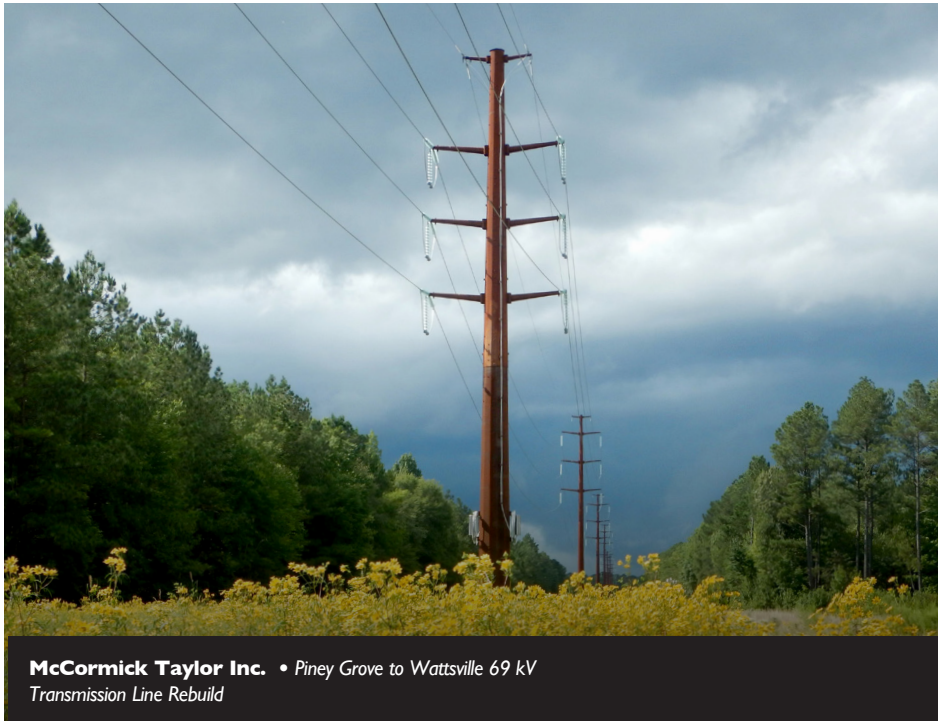
McCormick Taylor supported Delmarva Power & Light (DPL) with the rebuild of their existing 69 kV line and with the installation of a new 138 kV transmission line from Piney Grove Substation in Wicomico County, MD to the Wattsville Substation in Accomack County, VA stretching nearly 30 miles in length.

McCormick Taylor was responsible for preparing the Environmental Review Documents (ERD) in support of the Certificate of Public Convenience and

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ACEC/MD 2020 ENGINEERING EXCELLENCE AWARDS

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McCormick Taylor Inc. • Piney Grove to Wattsville 69 kV
Transmission Line Rebuild

Necessity (CPCN) application and Virginia State Corporate Commission submission, preparing the Section 404 permit applications and mitigation plan, and conducting environmental compliance inspections during construction. In support of these efforts, this project also required McCormick Taylor to conduct several environmental studies and extensive coordination with federal and state regulatory agencies, including the Army Corps of Engineers – Baltimore and Norfolk Districts, the Maryland Department of the Environment, the Maryland Department of Natural Resources (DNR), and the Chesapeake Bay Critical Area. The studies included, but were not limited to: Alternative Route Analysis, wetland delineation, Threatened and Endangered Species Surveys, Joint Permit Application(s), Class I cultural Resource Survey, and Visual Quality analysis.

The project crossed several unique and valuable environmental resources, including the wild and scenic Pocomoke River, Chesapeake Bay Critical Areas, tidal wetlands, and threatened and endangered species' habitats. The presence of these resources within and adjacent to the project

area required extensive coordination with the regulatory agencies, including the DNR. McCormick Taylor, in conjunction with DPL, worked extensively with the DNR to ensure that the most feasible route was selected for the project to minimize or avoid impacts to the valuable resources in the area.

PRIME AE GROUP

Rehabilitation of the Anacostia Freeway Bridges over Nicholson Street

Serving over 135,000 vehicles per day, the Anacostia Freeway (DC-295) bridges over Nicholson Street are a vital part of the DC metro area infrastructure. Decades of heavy use without rehabilitation resulted in significant deterioration of the bridge deck and adjoining ramps. This project provided the much-needed rehabilitation of the mainline bridge and two ramps, including bridge studies and reports, structural analysis and design, and phased maintenance of traffic design.

Accelerated Bridge Construction (ABC) was identified as the fastest, safest, and most environmentally-friendly solution. Complete superstructure replacement, with substructure rehabilitation using accelerated methods and technologies, was selected to minimize impacts.

Using ABC, the mainline bridge was replaced in four stages. Old bridge sections were removed. New, prefabricated bridge sections were constructed off-site and

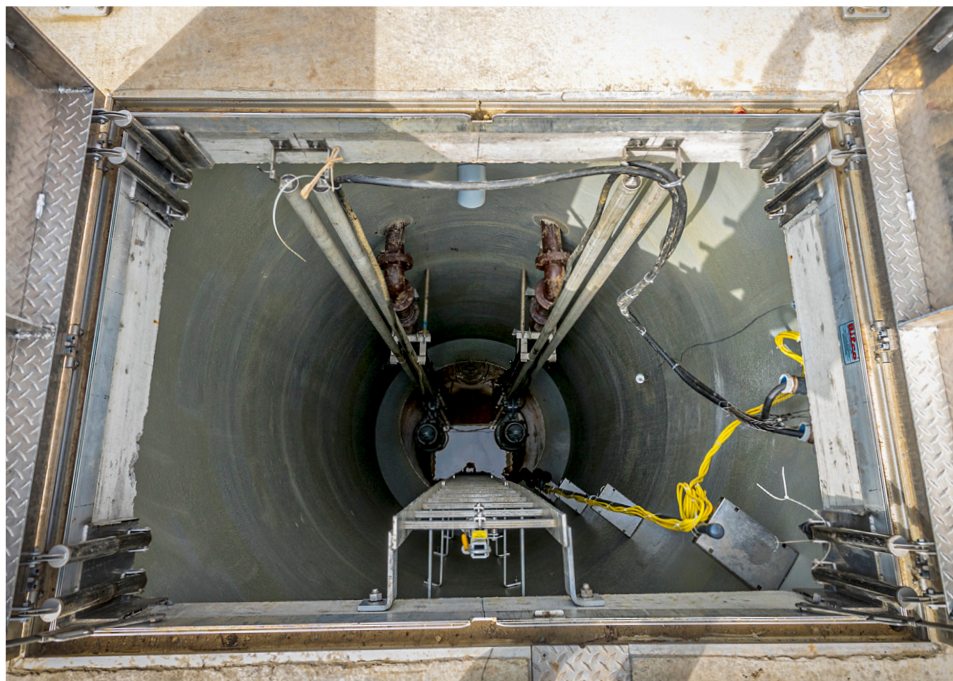
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PRIME AE Group • Rehabilitation of the Anacostia Freeway Bridges over Nicholson Street

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Wallace Montgomery (WM) • Holly Hills Sewage Pump Station Upgrade

strategically moved into place using heavy lift cranes, requiring minimal impacts on existing traffic patterns compared to conventional multi-phased bridge replacement methods. The final stage completed and connected the constructed bridges.

Total road closure time was decreased from a predicted four months to only six consecutive weekends for the ramp bridges. Traffic on mainline DC-295 was maintained at all times, with ramp detours during the weekend closures. PRIME AE provided a Transportation Management Plan for all changes to overhead signage and pavement markings and lane and ramp closures, plus sign and pavement marking plans for the newly rehabilitated bridges.

The community that relies upon the Anacostia Freeway bridges and surrounding roads was given special consideration throughout the project, through outreach and awareness plans.

By pairing advanced construction methods and technology and communication with stakeholders, the design team achieved DDOT's goals, ensuring the reliable usability of the bridges for many decades.

WALLACE MONTGOMERY (WM)

Holly Hills Sewage Pump Station Upgrade

Area population growth led the Holly Hill sewage pump station to exceed its capacity. Staff implemented an operational procedure to send a pumper/ tanker truck to the site during storms. This approach prevented sanitary sewer overflows, which would violate the MDE and EPA Clean Waters Act and be subject to daily fines. The facility, constrained on a 0.26-acre rectangular lot, was located in a residential area within the 100-year floodplain and the Limited Development Area of the Chesapeake Bay Critical Area.

WM's design, construction activities, and future maintenance operations were tailored to develop a long-term solution while minimizing adverse impacts to the community. The existing wet well was repurposed for a new, inline storage facility. The team designed a second, smaller footprint wet well to accommodate additional storage while eliminating the need to acquire right-of-way. This inline configuration also minimized the need for a bypass pump. While the single phase power supply was

upgraded to 3-phase, WM coordinated with the pump supplier and specified the use of oversized variable frequency drives to act as phase converters to convert the available single phase to 3-phase, saving the County's rate payers approximately \$360,000.

Other features included:

- Sound-attenuating enclosures for the new emergency backup generator and the ventilation blower motor
- Sediment and erosion control plans and devices to keep mud and construction debris off roadways and roadside ditches
- Biological soil odor control device to mitigate foul odors
- The contractor also took special care and precaution to minimize disruptions to the neighborhood during construction.

WM's work on this project successfully addressed a potential health and environmental situation, improved operations safety, and provided extra sanitary sewage conveyance capacity for the Mayo Peninsula community.

WHITNEY BAILEY COX & MAGNANI LLC (WBCM)

Slope Stabilization at Building 75, Naval Research Laboratory Chesapeake Bay Detachment

Slope failures along cliff frontage at the US Naval Research Laboratory's Chesapeake Bay Detachment have brought the edge perilously close to the existing road, research structures, utilities, and buildings. At its highest point, the cliff is about 100 feet tall, with a near-vertical face at the upper 30 to 50 feet.

Of three conceptual designs developed by WBCM and Schnabel Engineering (geotechnical engineering subconsultant), the client selected a soil nail stabilization solution that maintained the basic cliff geometry and allowed for a natural vegetated cliff surface. Each soil nail -- six inches in diameter and 45 feet long -- was drilled into the cliff and grouted in place.

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Whitney Bailey Cox & Magnani LLC (WBCM) • Slope Stabilization at Building 75, Naval Research Laboratory Chesapeake Bay DetachmentCommunity College

WBCM's plans showed the matrix of 1,223 soil nails, the associated flexible facing for stabilization of the upper cliff face, and the seeding mix to promote vegetation on the cliff face.

WBCM also designed utility and infrastructure relocations to prevent infrastructure failures from causing damage to the restored slope, performed a hazard assessment of the cliff, and outlined several im-

mediate stabilization techniques that would allow for uninterrupted facility operation.

Construction access to the site required creative thinking. To safely install the soil nails, the contractor constructed an access bench at mid-slope. A drill mast attached to a long-reach excavator installed nails from the top of the cliff, and a smaller excavator with a drill mast attachment installed the lower soil nails from the

access bench. The access bench also allowed the use of man-lifts instead of crane platforms for the installation of the flexible facing hydroseeding of the slope. The bench was left in-place to ease access for future cliff maintenance.

WSP

Patuxent Water Filtration Plant Phase II Expansion

Clean, safe water is a resource that most Americans take for granted. For most of us, all we know is that it comes from the tap, in whatever quantities we need. Achieving that level of consistency in service and operational continuity, while always protecting the environment, is a complex and never-ending challenge. Through the Patuxent Water Filtration Plant Phase II Expansion project and others, WSSC has proven to be a leader among the nation's water utilities in advancing the critical, intertwined goals of resiliency and sustainability.

WSP oversaw the upgrade and expansion construction of the Patuxent Plant's new facilities, bringing plant capability up from 56 million gallons per day (MGD) of clean water up to 72 MGD, and with a total emergency capacity of 110 MGD. Adding a sixth process train, ultraviolet (UV) disinfection equipment, an orthophosphate and fluoride building and a residuals handling building, makes Patuxent a completely self-sufficient facility. With successful delivery of this new capacity by a collaborative team, on time and on budget, the residents of Prince George's and Montgomery Counties are now safer than ever before. Rapid growth in the region can continue, secure in the knowledge that all facilities, new and old, will continue to be served by a reliable, worldclass, and resilient water treatment system.

■■■



WSP • Patuxent Water Filtration Plant Phase II Expansion

AWARD JUDGES PROVIDE VALUABLE SERVICE TO ACEC/MD

We would like to express appreciation to the following judges that played an integral part in the success of our Awards Program. Our distinguished panel of judges for this year's awards included:

Wane-Jang Lin, Maryland Transit Administration

Lauren T. Buckler, Department of General Services

Angela Smith, MDOT State Highway Administration

Charles Ingram, Baltimore County Department of Public Works

Jeff McCormack, AECOM

Malini Glueck, Phoenix Engineering

Ray Streib, Development Facilitators, Inc.



MEMBER NEWS

- **A. MORTON THOMAS & ASSOCIATES, INC. (AMT)** is pleased to announce that **Pete Strawser, MCP, MCSA** has been promoted to Director of Technology and Facilities. In this role he will oversee initiatives related to technology and facilities across the firm's 20 office locations.
- **KCI TECHNOLOGIES, INC.** has acquired the civil engineering and construction engineering and inspection (CE&I) practices of Landtech Inc., a consulting firm with offices in Texas.
- **NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.** is pleased to announce that **Lauren Antenucci, P. E.** has recently joined the firm in March as Assistant Director of Construction – CM/CI Services. She has over 15 years of experience in highway design and construction management.
- **SCHNABEL ENGINEERING** recently announced the acquisition of Deere & Ault Consultants, Inc. (D&A), a Water Resources, Civil, and Geotechnical Engineering services firm with offices in Colorado and Idaho.



WORTHY STUDENTS GARNER SCHOLARSHIPS

In order to assist worthy students pursuing careers in engineering or land surveying, the American Council of Engineering Companies/Maryland awards four scholarships. Three scholarships, sponsored by ACEC/MD, go to selected students majoring in either civil, mechanical or electrical engineering, or surveying, attending an accredited college or university. The fourth scholarship, the William R. Kahl Scholarship, sponsored by long-time member firm RK&K, LLP, is awarded to the top ranked civil engineering student in the competition.

ACEC/MD SCHOLARSHIP WINNERS

Gary Charles

Gary Charles will be entering his Senior year at Morgan State University pursuing a degree in Transportation Engineering. A resident of Baltimore, Gary possess a strong 3.4 GPA. Gary recently worked a part-time job at MDOT as an IT Intern focusing on Contract Management. He previously served as Student Chapter Secretary of the Institute of Transportation Engineers and as a National Society of Leadership and Success member.

Josiah Coleman

Josiah Coleman is entering his Senior year at Morgan State University pursuing a degree in Industrial & Systems Engineering. A resident of Perry Hall, he possess a solid 3.02 GPA. Josiah recently worked full-time over the summer at MDOT as a Transportation Intern, where he was involved with quality, procedures, and MDOT-SHA inspections. Previously, he worked full-time as a Test Technician

at Logic Data and as an Assembly Intern Engineer. He is an active member of the Institute of Industrial and Systems Engineer (IISE) and the National Society of Black Engineers (NSBE).

Emily Jimenez

A resident of Catonsville, Emily Jimenez will be entering her Junior year at the University of Delaware in the fall of 2020 majoring in Environmental Engineering. She has a strong 3.20 GPA. At the University of Delaware, Emily was in Tier Two of the Blue Hen Leadership Program, working with a non-profit to help find the best alternative to plastic disposable bags. She is also an active member in the Society of Women in Engineering (SWE), and was also part of the Resources to Inspire Successful Engineers (RISE) program that is focused on helping students succeed. Emily also worked part-time at Brightview, interacting with residents and making them feel at home in the facility.

WILLIAM R. KAHL 2020 SCHOLARSHIP WINNER

Amara Mckinney

Amara Mckinney is the recipient of the 2020 William R. Kahl Scholarship, which recognizes the top Civil Engineering student in the competition. Entering her Senior year at Morgan State University, Amara has an impressive 3.6 GPA. A resident of Lorton, Virginia, this past semester, Amara worked two jobs, one full-time

in the Academic Enrichment Program and one part-time as a Design Apprenticeship Program Assistant. She hopes to apply her degree to the field of real estate development, focusing on creating sustainable and affordable housing and infrastructure for minority communities.



THANKS FOR BEING A SPONSOR

ACEC/MD would like to extend its sincere appreciation and thank the following sponsors for making ACEC/MD's Awards Program a great success:

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KAREN KAHL AWARDED ACEC/MD 2020 COMMUNITY SERVICE AWARD



Annually, ACEC/MD honors a member firm representative that has made a significant contribution to the community by volunteering their time and expertise. The ACEC/MD 2020 Community Service Award went to Karen Kahl, PE (Rummel, Klepper & Kahl).

Karen Kahl has been devoted to community service and improving the lives of people for more than 25 years. Her service started in graduate school when she volunteered at a women's crisis center in Brazos, Texas, and then at a battered women's shelter in Evanston, Illinois. Since relocating to Maryland, she has supported more than 20 different organizations. Her longest and most in-depth involvement has been with the Tyanna Barre O'Brien Breast Cancer Foundation, serving as the foundation's local and national treasurer, where she oversaw a donation of more than \$1.2-million to Mercy Hospital. At RK&K, from 1998 to 2012, she led the annual Toys for Tots drive. Since 2013, Karen has co-lead the toy drive and helped promote the distribution of toys to children near the RK&K office. She has also been active in numerous other community efforts, including raising more than \$4,000 for breast cancer research as part of the Avon Breast Cancer 3-day, 60-mile fundraiser

walk, and annually collected food for the Assistance Center of Towson Churches food drives, the Maryland Food Bank, and Thanksgiving baskets.

She has collected supplies for the Student Support Network, which helps homeless children in Baltimore County; held the treasurer position for local Boys Scout Pack 750; organized ongoing donations to RK&K's support of soldiers through the Any Soldier website; annually adopted a local family through St. Vincent DePaul and purchased items for children through Christmas-Time Angel Tree programs; organized events and donated to an education fund for African children; collected clothing for a 60-person group of homeless women; annually participated in a program that send small toys to children around the world and collected books for an inner city reading program.

In 2016, Karen spearheaded an effort for the Baltimore Chapter of the Women's Transportation Seminar (WTS), which helped raise more than \$1,300 for the organization's annual scholarship. That year she also reached out to her co-workers and neighbors and conducted a winter clothing drive for Baltimore International Refugee Committee's Refugee Center. She has been a member of a number of ACEC/MD committees, and served as a panel member of the National Academy of Sciences, National Cooperative Highway Research Program. In addition, she has been an active member of the Transportation Research Board and was an Executive Committee member of the national level Traffic Engineering Council for the Institute of Transportation Engineers (ITE) and assisted in developing the Maryland Quality Initiative – Engineering Outreach Program's Highway Design presentation for high school students.



MDOT-MVA'S CHRISTINE NIZER RECOGNIZED WITH THE 2020 PRESIDENT'S AWARD

At the president's discretion, the American Council of Engineering Companies/Maryland honors an individual whose actions have greatly contributed to the advancement of the consulting engineering profession and the citizens of Maryland. This year's President's Award went to:

Christine Nizer

Christine Nizer was appointed Administrator of the Maryland Department of Transportation Motor Vehicle Administration (MDOT MVA) and Governor's Highway Safety Representative in August 2015. Prior to that appointment, Ms. Nizer served as the MDOT MVA's Chief Deputy Administrator and Deputy Administrator for Central Operations and Safety Programs for over eight years. She also held management positions at the



Maryland Public Service Commission, the Maryland General Assembly and the Office of Homeland Security.

Ms. Nizer is a Member of the American Association of Motor Vehicle

Administrators (AAMVA) International Board of Directors, AAMVA Region 1 Past President and a Member of the American Association of State Highway Transportation Officials Standing Committee on Highway Traffic Safety. She is a 2011 graduate of the Leadership Maryland Program and was named the Woman of the Year in 2014 by the Women in Transportation Seminar Baltimore Chapter. In 2018, Ms. Nizer received the Chair's Award of Excellence and Achievement by AAMVA.

Ms. Nizer earned a Master of Science degree in Public Policy from the Eagleton Institute of Rutgers University, and a Bachelor of Arts degree in Political Science from Goucher College.



AECOM'S DENILA DELIALLISI, P.E. SELECTED AS THE 2020 YOUNG PROFESSIONAL AWARD RECIPIENT

Annually, in conjunction with our parent organization the American Council of Engineering Companies (ACEC), ACEC/MD presents a Young Professional of the Year Award. This award recognizes the accomplishments of our member firms' young engineers by highlighting their interesting and unique work, and the resulting important impact on society. Denila Deliallisi, PE, of AECOM, was the recipient of the 2020 Young Professional of the Year Award.

A graduate of Lafayette College in Easton, PA, in the last five years at AECOM, Deni has managed record-breaking major projects featured in ENR news and magazines. She was the Deputy Project Manager of the \$480M Frederick Douglass Memorial Bridge Replacement. This is D.C.'s largest infrastructure project and is part of a program that is transforming the shores of the Anacostia River into a world-class waterfront. She monitored the budget, reviewed plans and specifications, and coordinated with the contractor, owner and stakeholders to ensure the project's critical path was not affected by design submittals.



She is leading the firm's Civil team in the rehabilitation of Arlington Memorial Bridge, a \$227M project and the National Park Service's largest project in history. The bridge is a national historic landmark, which was built in 1932 to show the strength of a united nation by joining two memorials on the north and south side of

the Potomac River – the Lincoln Memorial and Arlington House, and the Robert E. Lee Memorial.

This past September, Deni became the ambassador and liaison for the New MDOT SHA Contact Guide. This administrator's initiative was a response to the increase in pedestrian fatalities in the state, and it evolved into a guide about creating effective multi-modal transportation systems. She is creating a toolbox of innovative treatments and introducing the guide to internal and external stakeholders, federal, state and local government employees, advocacy groups and city and town councils.

Based on these leadership and management skills, she was the recipient of the 2019 President's "Top Anticipator of Client Needs" Award in all of AECOM Americas. Described by the leadership of her firm as an innovator, Deni is very active in a number of professional and community associations, including serving as Treasurer of ASHE-Chesapeake, and mentor for WTS-Baltimore.

