



AMERICAN COUNCIL OF ENGINEERING COMPANIES  
*of Ohio*

# 2020 Engineering Excellence Awards

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March 12, 2020

Bridgewater Banquet & Conference Center  
Columbus, Ohio

## THE ENGINEERING EXCELLENCE AWARDS

The ACEC Ohio Engineering Excellence Awards Competition is a national program that, for over 50 years, has recognized engineering companies for the role they play in developing projects “that demonstrate a high degree of achievement, value and ingenuity.”

Every year, engineering companies from across the country enter their most innovative design projects and studies in state competitions, such as ACEC Ohio’s, with the top entries from each state advancing to the national competition in Washington.

Projects are judged according to these five criteria:

- Original or Innovative Application of New or Existing Techniques
- Perception by the Public
- Social, Economic, and Sustainable Design Considerations
- Complexity
- Successful Fulfillment of Client/Owner Needs

Congratulations to all the award winners in the 2020 ACEC Ohio Engineering Excellence Awards Competition!

### Competition Judges

Cash Misel, P.E.	Former Assistant Director, Ohio Department of Transportation, retired
Jon Link, P.S.	Civil Engineering & Surveying Program Coordinator, Columbus State
William R. Shelley, P.E.	Former President, Shelley, Metz, Baumann & Hawk, Inc., retired
Lyle Flower, P.E.	Former Administrator of Consultant Services, Ohio Department of Transportation, retired

# Grand Award Winner

## Gannett Fleming | Buckeye Lake Dam Improvements



Approximately 30 miles east of Columbus, Ohio, sits Buckeye Lake State Park, a 3,100-acre recreation attraction popular for fishing, swimming and boating. Responding to a request from the Ohio Department of Natural Resources to assess the condition of the dam, in 2015 the U. S. Army Corps of Engineers determined the structure had a likelihood of catastrophic failure during normal operating conditions, posing significant risks to the public.

To reduce risk in the shortest time possible, Gannett Fleming proposed a two-phase reconstruction approach: Emergency Interim Risk Reduction Measures to decrease seepage and mitigate immediate stability risks, and Comprehensive Risk Reduction to secure the dam's stability for the next 100 years. This groundbreaking remediation solution, never before implemented on a U.S. dam, restored critical water infrastructure, the local economy and the safety of residents in the surrounding community. The design approach not only mitigated the seepage, but also pioneered a new standard for dam rehabilitations. The team's groundbreaking decision to use deep soil-mix technology to create a standalone gravity dam upstream of the existing embankment dam is a first-of-its-kind in the country.

Additionally, the combination of phased construction, unique design solutions and the construction manager-at-risk delivery method shortened the project duration from five years to three. It also reduced project costs by more than \$40 million and created a safer, more resilient environment now and for years to come.

# Outstanding Achievement Awards

## PEDCO E&A Services, Inc. | Carl H. Lindner College of Business

The newly constructed Lindner College of Business at the University of Cincinnati (UC) is a four-story, 225,000-square-foot facility that is functionally and visually critical to the continued success of both UC's Main Street and Campus Green master planning implemented over the past three decades. The facility is the crown jewel of UC's main campus with more than 160 faculty office spaces, an expansive two-story auditorium, lecture hall, research labs, student organization meeting spaces, huddle and breakout rooms and plenty of open workspaces. The business students of today are thinking about how they can grow their entrepreneurial spirit. They're also thinking about how they can collaborate with colleagues at the university. This facility serves to connect both recreational and academic open spaces and structures that are carefully woven into the heart of UC's main campus. The Lindner College of Business is designed to foster spaces and opportunities for students, professors and community members to come together, sharing ideas to propel the University and City of Cincinnati into the future.



## Karpinski Engineering | University Hospitals Rainbow Center for Women and Children

University Hospitals' (UH) Rainbow Center for Women and Children brings healthcare services to an otherwise underserved area in the Cleveland community. Team collaboration was crucial to achieving University Hospitals' vision for sustainability. The architect, engineers and construction manager came together early in the project for intensive, up-front planning and design. As LEED consultant and energy modeler, Karpinski Engineering played a vital role. Using energy modeling, the team evaluated how different mechanical-electrical-plumbing and architectural design elements would impact the building's energy performance. These ranged from building orientation and solar shading to mechanical systems and solar arrays. The Center, which opened in July 2018, has earned the U.S. Green Building Council's Leadership in Energy Efficient Design Platinum certification – the highest level possible. According to UH, it is the first healthcare facility in Ohio to achieve that designation.



# Outstanding Achievement Awards

## EMH&T | Blacklick Creek Sanitary Interceptor Sewer

To better support development, the City of Columbus, in conjunction with the Jefferson Water and Sewer District and the City of New Albany, chose to pursue design and construction of the Blacklick Creek Sanitary Interceptor Sewer (BCSIS), a 23,000-linear-foot extension of the existing sewer from its current terminus north of Broad Street along Reynoldsburg-New Albany Road north to Morse Road. From the very beginning, the project presented complex challenges to the design and construction team. The geology and hydrogeology of the project corridor were complex, resulting in over 900 various tests of soil and rock. The BCSIS project resulted in an excellent outcome, being completed within its budget parameters and almost a full year ahead of schedule. The project successfully fulfilled the needs of the City of Columbus to provide sanitary sewer service in the far eastern part of its service area and meets the needs of serviceability that were agreed to by Columbus and Jefferson Township. It also allows New Albany to move forward with its own portion of the project, which will allow the city to support the ongoing growth of its International Business Park.



## Environmental Design Group | Aqueduct Street Green Improvements

Aqueduct Street is one of the first streets in Akron that will be replaced with a “complete, livable, and green street” design. The design is a model for future urban roadways. The area drainage is a major contributor to the combined sewer overflow (CSO) area of CSO Racks 26 & 28 near the Little Cuyahoga River. The 1.11 acres of green infrastructure collects stormwater from 43 acres. Underground check dams and stormwater chambers within the street right-of-way promote infiltration into the existing sandy soils. Within CSO Racks 26 & 28, the Aqueduct Street Green Improvements project represents a significant cost avoidance to the citizens of Akron – approximately \$7 million dollars. This project, along with upsized underflow pipe to Akron’s Water Reclamation Facility, controls 1.5 million gallons (MG) of CSO and provides more beneficial environmental impacts within a shorter time frame.



# Outstanding Achievement Awards

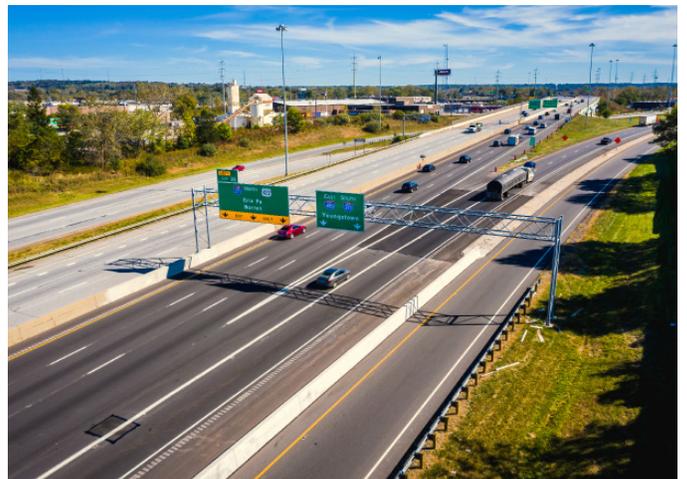
## Burgess & Niple, Inc. | Blueprint Water Line Initiative

The Blueprint Water Line Initiative in western Trumbull County gives options to those in previously unserved areas and improves service for others who had to rely on an outdated water treatment plant. The Ohio EPA funded three-fourths of the \$15.7-million total project cost through a grant and loaned the remaining portion with zero interest over 30 years. It was the largest amount the Ohio EPA ever funded for this type of project. Users choosing to connect to the new system will pay a small fee. B&N performed water modeling and designed the 24 miles of new water distribution system, service lines, and meter replacements, valves, and fire hydrants; provided environmental services; oversaw and inspected the design of the elevated water storage tank and booster station by a subconsultant; and performed services during construction.



## Mott McDonald | Auxiliary Lane for I-480 Eastbound

This two-mile long auxiliary lane addition project on I-480 alleviated a long-standing bottleneck in the Greater Cleveland area. This project was the ODOT's first design project to be scoped utilizing performance based practical design criteria. The project challenges included preserving the ten-inch concrete base and optimizing the roadway to provide the ideal lane width which also included the inside and outside shoulder widths to add capacity at a reasonable cost without compromising safety. The consultant proposed an innovative maintenance of traffic scheme due to high traffic volumes in the corridor. The 10 new barrier inlets required 60 feet of barrier to be removed and replaced. Mott McDonald recommended to ODOT that the proposed barrier be kept as the old-style jersey barrier to eliminate the need for the barrier transitions and end anchorages thus saving \$93k. Mobile Light Detection and Ranging was used for the survey which eliminated the need for any lane or shoulder closures and was safe for the survey crews and traveling public. Overall, there was a \$1.6M net present value of safety benefits. The success of the project has already led to ODOT programming future projects to eliminate interstate bottlenecks.



# Outstanding Achievement Awards

## Burgess and Niple, Inc. | Hard Shoulder Running Pilot Project (Smartlane)

The I-670 corridor in Columbus, Ohio, serves as the major artery connecting downtown to John Glenn International Airport. To combat congestion on this crucial roadway, Burgess & Niple led a large, eight-consultant team to design an Active Traffic Management Strategy called Hard Shoulder Running (HSR). HSR is the temporary use of the shoulder to provide an additional lane of capacity during peak travel hours. The project, branded "SmartLane" by ODOT, allows operators at the traffic management center to monitor the corridor in real-time via 46 closed-circuit television cameras installed with the project. With this information, they can communicate speed limits, lane usage and emergency messages with drivers using Dynamic Message Signs.

At the time of design, there were only 12 active HSR corridors in the United States, which added to the complexity of the design process. Opened to traffic on October 23, 2019, this is the 14th active HSR corridor in the country and the first in Ohio.



## ms consultants, inc. | Southern Ohio Veterans Memorial Highway

The Southern Ohio Veterans Memorial Highway was the first-ever availability-payment Public/Private Partnership project for ODOT. This project involved the design, construction and long-term maintenance of a new 16-mile, four-lane divided, limited-access highway around the City of Portsmouth in Scioto County, bypassing approximately 26 miles of US-52 and US-23. The highway is designated as State Route 823 (S.R. 823), the Southern Ohio Veterans Memorial Highway (formerly known as the Portsmouth Bypass). Development of the Southern Ohio Veterans Memorial Highway is impressive in its size, method and benefits to the general public. Highlights include five new interchanges, 23 new bridges, 80 culverts, 79 detention ponds, 20 million cubic yards of earthwork and 1 million square yards of asphalt. This was the first design-build-finance-operate-maintain delivery method used in Ohio. It reduced the congestion in the City of Portsmouth, reduced the long-term maintenance costs and increased economic development opportunities in the region. The winning bid for this project was \$906 million which included design, construction and 35 years of maintenance.



# Outstanding Achievement Awards

## The Mannik & Smith Group, Inc. | ProMedica Toledo Hospital Generations of Care

ProMedica began planning for the new 13-story, 616,000-sf Generations of Care Patient Tower on its main campus, site constraints were a major concern. As the site/civil design consultant for this massive project. With an increase in impervious area and the need to meet stringent environmental regulations, stormwater management was complex. MSG designed 30 bioretention cells to provide infiltration of stormwater through the bioretention media and bioswales. Enclosed stormwater detention facilities provide for 35,000 cubic feet of detention with controlled release to the Ottawa River. Construction of the tower, underground parking garage and related facilities over soft and sensitive clay soils containing sporadic pockets of underground water required creative geotechnical solutions.

MSG geotechnical engineers specified and oversaw a full-scale drilled shaft testing facility to customize the design and construction of the foundation system of the tower. Geotechnical instrumentation and monitors were installed to provide for pre- and post-construction condition surveys to detect any movement. MSG landscape architects worked with the client to consolidate site and building access to a well-defined promenade of walkways and gardens. Parking had to be convenient and congestion had to be reduced in order to allow for ambulance and fire protection vehicles. To meet these needs, MSG engineers designed the relocation of 2,000 feet of parkway, improvements to 4,100 feet of roadway, three roundabouts, and two signalized intersections. As the new face of ProMedica's Toledo Hospital Campus, the \$400 million Generations of Care project is the largest single construction project in ProMedica's history, representing the health system's commitment to caring for future generations in northwest Ohio.



# Outstanding Small Project Award

## KS Associates, Inc. | Cleveland Metroparks Euclid Beach Pier

The Euclid Beach Pier helped Cleveland Metroparks achieve its mission in reinventing public spaces as safe, clean and green parks for nearby residents and visitors. In 2016, KS began working with Cleveland Metroparks on the new Euclid Beach Pier. The pier was designed to withstand the constant pounding of waves and harsh Cleveland winters, incorporates a natural fish habitat, and makes it possible and easy for visitors of all ages and capabilities to enjoy the park's lakefront. The pier preserves a piece of Cleveland's history. It restores what had long been one of the park's most popular amenities — the Euclid Beach Pier. The original pier, built in 1895, was a popular attraction of the Euclid Beach Amusement Park — a nationally known amusement park until it closed in 1969. Today, the 315-foot-long pier, which extends 150 feet out over Lake Erie, provides visitors a unique way to enjoy spectacular sunsets and views of the City of Cleveland in a way that had not been possible without the construction of this waterfront structure.



# Honor Awards

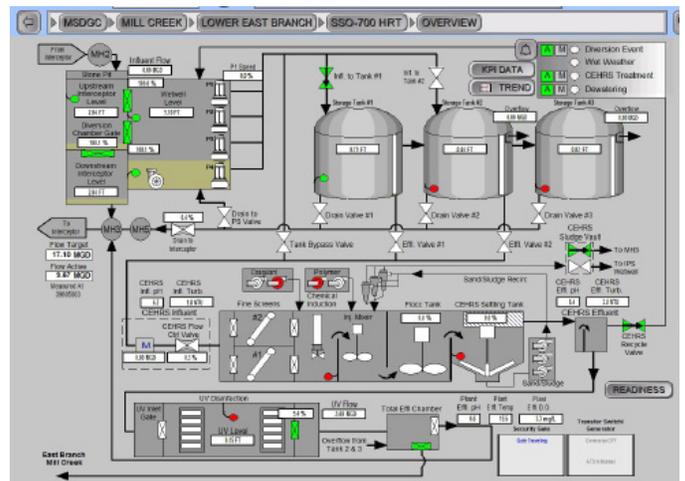
## LJB Inc. | Fall Protection Design for Melt Shop Charge Crane

The extreme, high-heat environment within any melt shop in the steel industry requires all equipment to be designed and engineered with the environment in mind. LJB developed a conceptual fall protection solution for a steel industry melt shop, abating hazards associated with the bridge, end trucks and a shop crane trolley. For this melt shop fall hazard, the final solution included both engineering controls and active fall protection systems. Specifically, for the bridge girders and end trucks, the existing guardrail was replaced with a specially designed fall protection system that serves as the guardrail. This custom-designed guardrail includes a top rail that is designed for fall arrest, to take the place of the weakened horizontal lifeline system. LJB's solutions increased safety for the employees and significantly reduced financial and legal risks.



## Jacobs | MSDGC Smart Sewers Program

The Metropolitan Sewer District of Greater Cincinnati (MSDGC) created a Watershed Operations Division to operate, monitor and optimize their existing wet weather assets located remotely throughout their collection system. These operations help reduce sewage overflows during rain events in a cost-efficient manner, reduce capital expenditures and maximize the capacity of their infrastructure. A Jacobs-led engineering team, working closely with MSDGC, developed a Smart Sewers Program which incorporates a cloud-based supervisory control and data acquisition (WW SCADA) system that is dedicated to wet weather operations. The WW SCADA system collects real-time data throughout the collection system and allows MSDGC to evaluate and optimize the operations of remote wet weather facilities.



# Honor Awards

## Wade & Trim, Inc. | Heights Hilltop Interceptor-Local Sanitary Sewer Evaluation Study

Wade & Trim led the Heights Hilltop Interceptor Local Sewer System Evaluation Study to assess potential Clean Water Act issues like sanitary sewer overflows and basement flooding and identify capacity limitations. This is the first of four large-scale studies implemented by the Northeast Ohio Regional Sewer District to identify local communities' problems and potential solutions to positively impact regional water quality and public health. The \$10.5-million study spanned all or parts of 14 communities in 42 square miles east of Cleveland serving a population of 180,000. Wade & Trim's unique investigative, modeling, alternatives analysis, and evaluation techniques provide a successful and cost-effective template for other sewer shed studies that will benefit the region. Finally, analysis of the 10-year, one-hour rainfall determined that the incremental cost to achieve a 10-year level-of-service in five-year improvement areas was relatively small, typically less than 10%, indicating that greater benefits can be gained at minimal cost.



## LJB Inc. | State Route 235 over Cemex Haul Road Underpass Bridge

LJB designed the Cemex Haul Road bridge underpass to allow Fairborn Cement Company's mining operations to expand for the next 30+ years. The bridge facilitated a new quarry haul road, connecting the western quarry to a new quarry east of the state route, which keeps mining activities off public roadways and minimizes impacts to the surrounding community and residents. The final bridge design consisted of a 145-foot, single-span, wide flange, prestressed I-beam with a composite reinforced concrete deck on large wall type and reinforced concrete semi-integral abutments on spread footings founded on the underlying bedrock. The project was also important for community safety, as it will keep mining activities off public roadways and minimize impacts to the surrounding community and residents.



# Honor Awards

## Hull & Associates Inc. | Faith Ranch Mitigation Bank

Hull & Associates faced the largest stream and wetland restoration mitigation bank project ever built in Ohio: Faith Ranch, a 4200-acre private Christian outdoor recreation center and retreat in Harrison County. Their efforts on the restoration resulted in improved stream stability, overall habitat and stream and wetland conditions, which was achieved through a design/build approach. The approach provided flexibility for in-field adjustments during construction, reduced project delays and led to a more efficient project conclusion. Hull & Associates utilized a unique design-build approach that relied on close communication and cooperation between the engineer and construction contractor which ultimately provided cost saving benefits at the initial design stages of the project. The end result of the project



is the long-term benefits to the surrounding areas including Faith Ranch as a result of the improved habitat, stream and wetlands conditions and the subsequent utilization of the mitigation credits by public and private sector groups who must offset their unavoidable environmental impacts.

## GPD Group | Howard Storage Basin (CSO Rack 22)

The City of Akron Combined Sewer Overflow (CSO) Long Term Control Plan Update and subsequent Integrated Plan modification identified partial sewer separation or construction of a storage basin to store flow tributary to CSO Rack 22 and achieve zero overflows within the adjusted 1994 typical year. The Howard Storage Basin Project primarily involved the installation of a 2.4-million-gallon concrete storage basin near the intersection of Cuyahoga St. and Howard St. The basin is approximately 170' in length along Cuyahoga St., 100' wide and 30' deep. The basin side walls were extended 42" above the final grade. All combined sewer overflows from the existing Rack 22 are intercepted and redirected to the basin via twin 57" circular diversion sewers. The diversion sewers intercept the existing Rack 22 overflow sewer approximately 150' north of the Cuyahoga St. and Howard St. intersection.



# Honor Awards

## Jones & Henry Engineers, Ltd. | International Park CSO Basin

This project involved the design and construction engineering of a new combined sewage overflow storage basin on City of Toledo-owned property in International Park, located on the east side of the Maumee River. To resist groundwater and floodwater buoyancy forces, 14 feet of soil was placed on top of the basin roof to act as a counter balancing weight. The storage basin was designed to capture and store 6.9 million gallons of combined sewage to prevent combined sewer overflows into the Maumee River. The primary storage basin structure consists of a 5.2 million gallon, below grade, reinforced concrete structure on the International Park site. The storage basin was fitted with a flushing system, a dewatering pump station and appurtenant systems. Captured combined sewage is stored in the basin and is conveyed via the dewatering pump station to the East Side Interceptor and ultimately to the Bay View Water Reclamation Plant for treatment.



## Osborn Engineering | City of Westlake Dover Ditch Basin

The City of Westlake's Dover Ditch Basin project is one of the largest earthmoving and significant stormwater hydraulics endeavors that Osborn Engineering has undertaken in many years. Per the City, this project was able to convert a dumping ground, an ill-maintained basin and urban drainage channel into a nature preserve for the community. Osborn Engineering designed the Costello/Biddulph basin to maximize the available amount of stormwater detention volume along the existing Dover Ditch, east of Crocker Road and south of Center Ridge Road. The design parameters for this basin expansion were based on field run topography and location survey. The new basin was designed to include wetland restoration of the riparian corridor and floodplain to improve water quality. By selecting the appropriate mixture of vegetation for this area, the basin will require minimal maintenance and upkeep while providing lasting improvements to the new habitat.



# Honor Awards

## Stantec Consulting Services Inc. | Ballville Dam Removal

Removal of the Ballville Dam is anticipated to have \$140M in annual economic benefit to the Great Lakes Region and is widely considered the most important ecosystem restoration project ever completed by the State of Ohio. Built in 1911, the Ballville Dam provided electricity for approximately 30 years before being deemed impractical. The United States Fish and Wildlife Service, Ohio Department of Natural Resources and the City of Fremont received \$2M – one of the largest grants ever given by Great Lakes Restoration Initiative (GLRI) – to remove the dam and return the area back to its natural state. Stantec performed multi-dimensional hydraulic and sediment fate and transport modeling that would guide the design so as to minimize the potential for sediment related damage. A habitat restoration and revegetation plan was developed and access roads, river restoration and habitat enhancements were designed.



## Stantec Consulting Services Inc. | I-71/Western Row Road Interchange Improvements

The I-71 and Western Row Road partial interchange was constructed in the 1970's with the primary purpose to provide access for visitors coming north from Cincinnati on I-71 to Kings Island Amusement Park's parking lots. The Warren County Transportation Improvement District (WCTID), coordinated efforts to reimagine the I-71 and Western Row Road interchange to meet the needs of the growing region. Stantec worked with the WCTID and the City of Mason to develop a plan that addressed current safety concerns and peak traffic demands, while also enhancing economic development opportunities in the area. The project was completed in two phases. The first phase relocated Columbia Road around existing retail businesses to provide adequate intersection spacing along Western Row Road between the I-71 exit ramp terminal/Kings Island Drive and the new Columbia Road intersection.



# Honor Awards

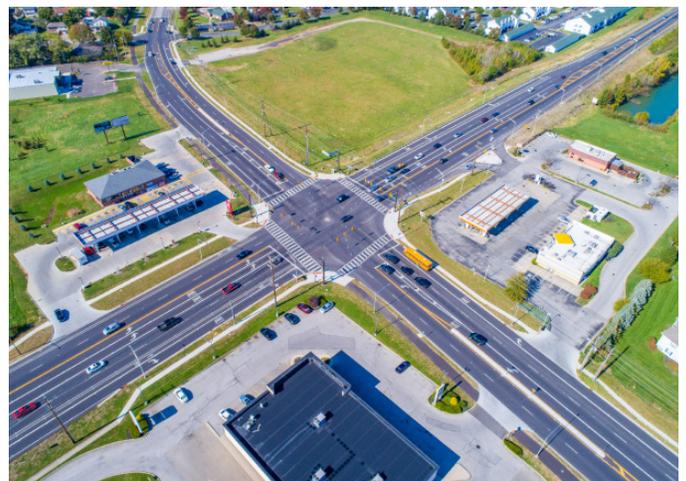
## Arcadis U.S., Inc. | 12th Street Corridor Improvements

Stark County, the City of Canton and Arcadis teamed together to design and implement corridor improvements along 12th Street in Canton, Ohio. A key component of Canton's Livable Communities initiative, the 12th Street Corridor Improvement Project included several interconnected elements including bridges, complete streets, a multi-use trail underpass, safety improvements and Section 4(f) compliance with two parks. A major component of the project, two deteriorating concrete arch bridges were replaced along this scenic byway corridor, with the larger of the two bridges being named in honor of former Stark County Engineer, Mike Rehfus, Sr. The project also included wider sidewalks, corridor streetscaping and improved bicycle access, while avoiding impacts to the adjacent railroad and historically significant cemetery. The 12th Street Corridor Improvement Project revitalizes the neighborhood, provides a hub for Canton's bike trail system and allows for safer walking trails for the local school children.



## IBI Group | FRA-Gender Road at Refugee Road Intersection Improvements

In collaboration with the City of Columbus, IBI Group assisted the city in providing safety improvements at the intersection of Refugee and Gender roads in southeastern Franklin County, Ohio. Ranked as the #4 high-crash intersection in the region by the Mid-Ohio Regional Planning Commission's, the goal of the project was to reduce traffic crashes and congestion while increasing safety. The IBI team analyzed traffic data, performed environmental screenings and prepared engineering and construction plans to improve intersection and passenger safety. Project improvements included additional turn and thru lanes, new concrete medians, traffic signals, lighting, noise walls, storm sewer, street trees, pedestrian and bicycle facilities. Additionally, over 200,000 square feet of existing roadway pavement was salvaged which saved \$1.1M in construction costs.



# Honor Awards

## Michael Baker International | Cleveland Hopkins International Airport North Airfield Improvements

Serving more than 9 million passengers annually, Cleveland Hopkins International Airport (CLE), located in Cleveland, Ohio, is the state's busiest airport and needed a taxiway reconstruction. One of the first runway incursion mitigation (RIM) projects in the country, Michael Baker International provided engineering solutions to modernize and enhance runway safety for the airport, air carriers and passengers. The Michael Baker team reconstructed the North Airfield taxiways at CLE by correcting geometric changes and eliminating existing hot spots, which included large expanses of pavement that intersected active runways and taxiways – causing pilot confusion. Extensive operational and stakeholder coordination efforts were deployed to ensure that there were no implications on day-to-day operations at the airport.



## Burgess & Niple, Inc. | South Hamilton Crossing Railroad Grade Separation

Poor geometrics and sight-distance issues coupled with a higher potential for severe traffic crashes have made the South Hamilton Crossing (SHX) one of the most dangerous at-grade railroad crossings in the City of Hamilton, Ohio. After over a century of unsuccessful attempts to propose and start the project, the city partnered with Burgess & Niple to finally see the much-needed grade separation through to completion. Now fully operational, the grade separation realigned Pleasant Avenue to intersect with Grand Boulevard, eliminating the dangerous at-grade intersection; and includes a new overpass, extending Grand Avenue over the CSX rail lines to connect education facilities and business parks. The grade separation delivers the critical infrastructure needed by the City of Hamilton and its residents for over a century, providing better accessibility, more efficient traffic movement and increased opportunities for economic development.



# Honor Awards

## Crawford Murphy & Tilly, Inc. | Rickenbacker International Airport

Originally conceived as a simple taxiway rehabilitation, CMT presented an alternate solution involving a rubblization technique that isn't commonly used at airports. This environmentally friendly approach resulted in a completely reconstructed taxiway with twice the expected service life of the originally proposed solution, at a cost only nominally higher than originally budgeted. While reconstructing the pavements, CMT made improvements to bring the taxiway system in compliance with FAA requirements that will lead to restrictions being lifted and reducing the airport's operational costs. The Rickenbacker Taxiway Rehabilitation and Modification of Standards (MOS) project provided a much-needed reconstruction of its taxiway system, while also completing the first step towards accommodating the largest aircraft in the sky.



## The Kleingers Group | Van Blaricum Road

A heavy spring storm on April 17, 2017, created vast volumes of stormwater run-off that overwhelmed and caused substantial damage to the existing culvert crossing on Van Blaricum Road in Hamilton County, Ohio. The culvert was unable to convey the massive flow of water, causing it to back up and eventually overflow onto the roadway. As a result, the culvert collapsed and washed away, taking with it a large portion of the road. The Kleingers Group team, working with Hamilton County Engineer's Office, S&ME, and O'Brien & Gere Engineers, Inc., identified the risks of traditional designs and explored new opportunities for improvements. The team recommended infrastructure design solutions that withstand torrential storms. Modifying transportation infrastructure to withstand the floods of the future, and establishing early emergency planning, is far less costly in the long run to implement now when compared to washed-out roads, culverts, and bridges, or lost property and lives.



# Honor Awards

## Environmental Design Group | Charles Mill Lake Park Infrastructure Backbone

The planning and design of the infrastructure backbone for Charles Mill Lake Park Campground is essentially the same as for a small city. Environmental Design Group had to solve the same issues as a small city, such as utility clearances, capacity, maintenance and operation for each of the systems. In addition, the campground system had the additional complexity of highly variable flowrates daily, weekly and monthly. This means that the infrastructure systems had to be designed to handle peak flows for weekends and holidays, but still operate relatively maintenance-free during the winter and other off-peak or shoulder season times. Working as a team, Muskingum Watershed Conservancy District and Environmental Design Group navigated these complicated and atypical processes to successfully complete this project while saving costs. The result is an enhanced experience for the visitors and customers to Charles Mill Lake Park while reducing potential impact to the environment.



## Hull & Associates Inc. | Great Lakes Dredged Material Center for Innovation

The Great Lakes Dredged Material Center for Innovation was designed to accommodate dredged material that would be hydraulically offloaded into earthen cells. Its purpose was to demonstrate if a potential full-scale agricultural field project – set forth in the Toledo Harbor Sediment use and Management Plan – could be implemented. Hull & Associates worked directly with the Toledo-Lucas County Port Authority and a team of experts for the development of the Great Lakes Dredged Material Center for Innovation. It was located on the City of Toledo's Riverside Park Confined Disposal Facility on the Maumee River, approximately one mile north of Interstate 280 in Toledo, Ohio. With funds provided through the Great Lakes Restoration Initiative, the Toledo-Lucas County Port Authority and the Ohio Lake Erie Commission completed the Toledo Harbor Sediment Use and Management Plan to identify a long-term combination of uses for the dredged material.



# Honor Awards

## Michael Baker International | International Park CSO Basin

To improve public health and economic vitality, Michael Baker International designed 1.9 miles of trail extension for the Towpath Trail in Cleveland, Ohio, linking residents to recreational parkland and commuters to downtown and local businesses. At the same time, it created a necessary connector for the statewide Ohio to Erie Trail, a 326-mile trail running from Cincinnati to Lake Erie. This required significant collaboration with local, state and federal agencies. Michael Baker worked tirelessly throughout the project to ensure that all stakeholders' concerns and wishes were addressed and that additional goals and demands that arose along the way were met. Michael Baker's design helped connect residents to recreational areas and local businesses, promoted sustained solutions to stormwater management and extend the 101-mile Towpath Trail to Cleveland – creating an important link in the statewide Ohio to Erie Trail.



## Hazen and Sawyer | Celina Water Treatment Plant

The Celina Water Treatment Plant successfully utilized the resources of the City of Celina and Hazen and Sawyer to quickly and cost-effectively implement another treatment barrier to protect against the potential for algal toxins in Grand Lake. As the City evaluates other source water supplies, it provides an additional technology for treating emerging contaminants. The combination of the design approach, the procurement method and the installation resulted in a highly successfully project that continues to allow the City to provide safe and reliable drinking water to its customers now and into the future. The City was able to install the new UV-AOP system for only \$353,000, or about \$0.12 per gallon of plant capacity. This represents an extremely cost-effective implementation of a powerful additional treatment barrier.



# Honor Awards

## Michael Baker International | Norfolk Southern Bridge CF-35.40

Following extreme flooding that damaged the Norfolk Southern Bridge CF-35.40 in Seven Mile, Ohio, Michael Baker International employed innovative techniques and strategies to successfully complete this important and complex bridge replacement project. A remote-monitored structure monitoring system was installed on the bridge while permanent improvements were developed. The existing structure was 92 years old and comprised of three, 22-foot-six-inch concrete slab beam spans supported on concrete piers and concrete gravity abutments carrying one main line track. The replacement span is a 52-foot, single-span, through-girder bridge supported on precast concrete abutment seats and five-foot diameter drilled shafts. Because the existing three-span bridge was replaced with a one-span structure, hydraulic performance will be enhanced. The superstructure was replaced within a 24-hour planned outage using Accelerated Bridge Construction techniques nearly one year after the initial storm event.



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