

The 2017 Engineering Excellence Awards

“Recognizing engineering firms for projects that demonstrate a high degree of achievement, value and ingenuity.”

Presented March 9, 2017
Bridgewater Banquet &
Conference Center
Columbus, Ohio



AMERICAN COUNCIL OF ENGINEERING COMPANIES
of Ohio

The Engineering Excellence Awards

The ACEC Ohio Engineering Excellence Awards Competition is a national program that, for 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 four criteria:

- *Original or Innovative Application of New or Existing Techniques*
- *Perception by the Public*
- *Social, Economic, and Sustainable Design Considerations*
- *Complexity*

Congratulations to all the award winners in the 2017 ACEC Ohio Engineering Excellence Awards Competition!

Competition Judges

Cash Misel, PE

Former Assistant Director,
Ohio Department of Transportation, retired

William E. Norris, PE

ACEC Ohio President, 1987-88, retired

William R. Shelley, PE

President, Retired, Shelley, Metz, Baumann & Hawk, Inc.

Paul Toth, PE

President & CEO, Toledo-Lucas County Port Authority

Outstanding Achievement Awards

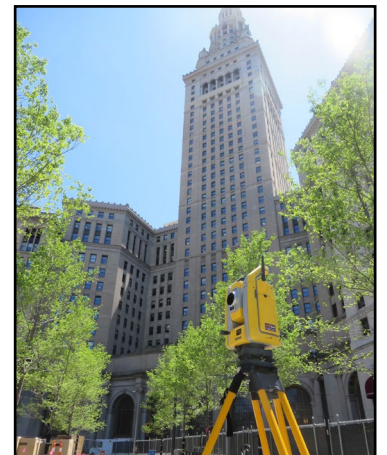
Osborn Engineering ***Public Square Redevelopment***

The road to the current redevelopment of Cleveland's Public Square began in 2002. When Cleveland was selected to host the 2016 Republican National Convention, civic leaders united to raise the initial investment to make this Project come to life in time. The Project broke ground with a fast-track schedule March 9, 2015. Osborn Engineering was tasked with \$15 million of infrastructure work which included the relocation and reconstruction of 90% of the utilities beneath the original Public Square while working with two dozen utility companies, a confined footprint, and an aggressive schedule. The challenge was to revitalize and reconstruct four one-acre plots of what was essentially some grass, trees and concrete into a cohesive, inviting urban space. The Project required a balanced design that could accommodate 60,000 commuters who use public transportation daily, as well as pedestrians and bicycle traffic. The new Public Square includes an outdoor café, a speaker's terrace, a fountain that can be converted to a "splash zone" and the 1894 Soldiers' and Sailors' Monument. Three distinct systems were installed that allow for the collection, infiltration and reuse of storm water. This project has tremendously impacted the Greater Cleveland community as it became a touchstone for the quiet Renaissance that Cleveland has been undergoing.



KS Associates, Inc. ***Surveying for the Redesign and Reconstruction of Cleveland Public Square***

In 2014, James Corner Field Operations (the architectural firm leading the redesign of Public Square) hired KS Associates to provide a comprehensive topographic survey of the Cleveland Public Square. The 10-acre project involved surveying all four quadrants of the Square and surrounding streets. The goal of the surveying assignment was to deliver a detailed topographic map of Cleveland Public Square, which would serve as a foundation for the Square's redesign. KS Associates used a combination of surveying methods — state-of-the-art 3D laser scanning and conventional field surveying — to provide the design team with a detailed digital map of the existing site. In April 2015, construction management firm Donley's, Inc. hired KS Associates to provide surveying during construction. Surveyors worked under immense pressure to coordinate work among numerous contractors. Surveyors pinpointed the locations where each element of the square would be installed. From sections of pre-cast concrete that had to precisely fit together to form permanent bench seating walls, to utilities, trees, site grading, and pavement, KS Associates helped keep the project on schedule. This \$42.7 million investment has re-shaped Cleveland's most visible intersection into a flexible, pedestrian friendly civic space.



Outstanding Achievement Awards

Stantec

Scioto Greenways

The Main Street Dam impounded 2.3 miles of the Scioto River which caused the river to be a slow-moving, overly wide pool of sediment laden water. The river was also 35 feet below street level and created a barrier between downtown Columbus and the Scioto Peninsula. This project involved three components: remove the dam, restore the Scioto River and create 33 acres of new green space. The Stantec team guided this project through a complex permitting process that included extensive cultural resources work in the historic civic corridor, mussel rescue efforts and coordination with multiple agencies. Several unique design solutions were implemented to meet the goals of the project. Riverbank stabilization was achieved using root wads and soil lifts planted with 1-and 3-gallon riparian shrubs species native to Ohio. Reestablishment of the river's bed variability was completed by installing constructed riffles to provide grade control as well as scour protection of existing bridge structures and underground utility crossings. Material excavated from the river was used in construction of the new riverbanks to reduce the amount of imported earthen fill. A healthy river that enables recreation and improves connectivity will allow the City to thrive and ensure maximum economic, ecological and social benefits.



WSP | Parsons Brinckerhoff & HDR, Inc.

Cincinnati Bell Connector Streetcar

WSP | Parsons Brinckerhoff & HDR collaborated on nearly every aspect of the development of the project to facilitate and design the \$148 million, 3.6-mile line. The Cincinnati Bell Connector connects the riverfront and historic Findlay Market, serving the city's resurgent downtown. The streetcar line includes 18 raised platforms and custom-designed station shelters fully integrated with the urban fabric. A major project component is an \$8.9 million, two-story, 12,460 square foot maintenance and operations facility. With the capacity of 12 vehicles, it is located in the Over-the-Rhine historic district and underwent rigorous community review. The streetcar is powered by an overhead electrical system that shares the street with automobile traffic in mixed-use lanes. During construction of the streetcar track system, approximately 20 inches of pavement depth and 8.5 feet in width was removed and replaced with a rail-embedded reinforced concrete slab and aggregate base. This project is designed not only as a key mode of transportation, but as a mechanism to expand the city's tax base by attracting new development already exceeding ridership expectations.

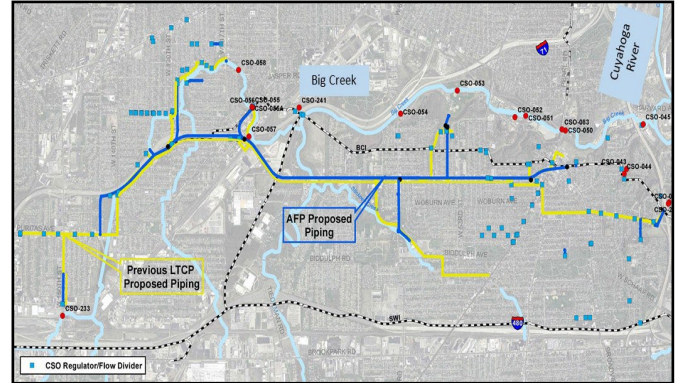


Outstanding Achievement Awards

Wade Trim

CSO Advanced Facilities Plan

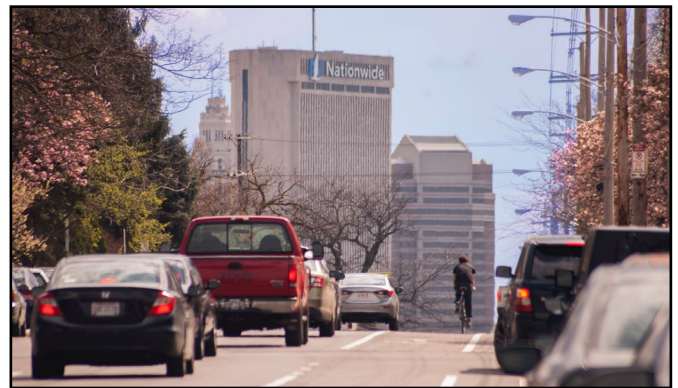
Wade Trim led a team of consultants that worked in collaboration with the Northeast Ohio Regional Sewer District in the development of Combined Sewer Overflow (or CSO) Advanced Facilities Plans for five storage tunnel systems in three sewer districts. The project optimized \$2.1 billion worth of the plan's CSO control projects. Proposed flow consolidation sewer piping and tunnel routing was optimized, and 20% preliminary design engineering documents were completed for 5 tunnel systems (19 miles of total length) to control CSOs for 81 square miles of heavily urbanized combined sewer service area. This unique approach to streamline program implementation reduced projected costs by approximately \$350 million, reducing potential risks and neighborhood disruption. The primary goal was to optimize the proposed system improvements to both confirm Consent Decree compliance and desired system hydraulic performance, and to reduce project and lifecycle costs, community disruption and risk. Program savings are helping member communities address long-standing sewer problems such as sanitary sewer overflows and basement flooding in their local systems.



Stantec

Fourth and Summit Complete Streets

The City of Columbus hired Stantec to author a plan to "better balance the travel modes" in an area where many did not own a car. A "Road Diet" for Fourth and Summit Streets was prescribed and then integrated into a resurfacing project designed by Stantec. In the end, one of three travel lanes was removed to bring capacity more in line with traffic volumes, allow for shorter crossing distances, provide 6.3 miles of bike lanes, and ease time of day parking restriction. This Complete Street contains Columbus' first two-way protected bike lane facility that spans 1.3 miles. These components required substantial changes to signals, signage and pavement markings, dramatically changing the operation of both streets to make them more livable on what had been a one-way street for over 60 years. The project has two varieties of two-stage turn boxes, the common two-stage left-turn box and possibly a first in the nation two-stage left/right-turn queue box used at intersections along the protected bike lanes. Transit islands allow passengers to board and disembark without blocking bike lanes. This Complete Street shows how engineering prowess can allow for a street to accommodate all people, whether they travel by foot, bike, bus or car, transforming a neighborhood to provide transportation options to those seeking an urban lifestyle.



Outstanding Small Project Award

The Mannik & Smith Group

Road 17C Bridge over the Miami and Erie Canal

The Mannik & Smith Group was chosen as the prime engineering consultant to design a replacement bridge over the Miami and Erie Canal on Road 17C. After the presentation of three design alternatives, a modified, three-sided, arched top precast concrete culvert structure, using accelerated bridge construction was determined to be the most feasible option. The design team addressed complicated hydraulic considerations, as well as provided a way to emphasize the importance of the canal system into the design of the bridge. The new Road 17C Bridge provides a safe roadway and pedestrian walkway for hikers and bicyclists on the Buckeye Trail in the Henry County Park District. The bridge promotes the historic impact of the Miami & Erie Canal and is now a landmark to be enjoyed and treasured for years to come.

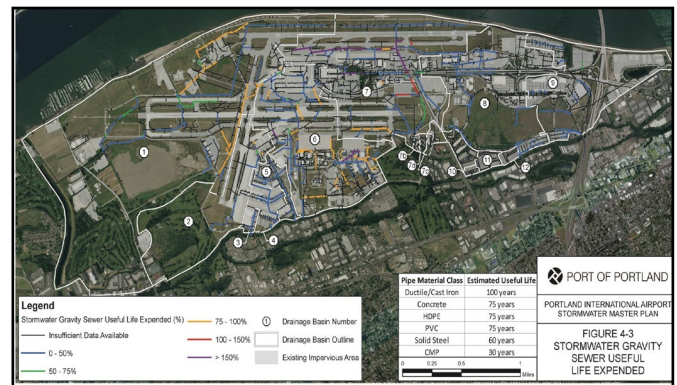


Honor Awards

Gresham, Smith and Partners

Port of Portland Integrated Stormwater Master Plan

Developing an Integrated Stormwater Master Plan for the Port of Portland was one of the most ambitious stormwater master planning efforts ever attempted by an owner of airport and marine port facilities and covered more than 6,000 acres of Port of Portland property. The facility-wide plan's principle work products reduce the client's future safety and operational risks, provide specific information for the long-term capital planning process, and provide confidence that innumerable applicable regulations will be met in the foreseeable future.



Honor Awards

CT Consultants, Inc.

Camp Ravenna Joint Military Training Center, Sanitary Sewer and Water Distribution System Improvements

Camp Ravenna opened as the Ravenna Army Ammunition Plant in 1941 to produce large-caliber artillery shells and bombs for World War II and now is an Ohio Army National Guard training facility. CT was the lead engineer on the design-build team for the water distribution system which was designed for potable water consumption with adequate flow capacity and sufficient pressure for fire protection, and includes a booster station.



Arcadis U.S., Inc.

Activated Sludge Improvements

Montgomery County Environmental Services enlisted the services of Arcadis to address existing deficiencies at the Western Regional Water Reclamation Facility. The goal of this project was to reduce the plant's energy usage, improve performance and process reliability of the plant's First Stage Aeration Tanks and Aerobic Digesters, and to replace approximately 1,800 lineal feet of leaking, buried aeration system piping. Since the completion of the project, the County has reduced energy usage by 501%, and process performance has improved drastically.



Honor Awards

CT Consultants, Inc.

City of Cambridge Water Pollution Control Center

CT began working for the City of Cambridge in 1944. In 2014, CT was hired again to provide engineering, survey, construction administration and funding advice for all aspects of the modernization of the city's water pollution control center. Replacing all the existing influent screen, rehabilitating two secondary clarifiers and replacing the existing office building and laboratory with a new facility with additional storage capacity. In addition, CT extended the plants life cycle, meeting current and future regulatory requirements within budget.



Karpinski Engineering

TriPoint Medical Center Energy Optimization

Lake Health wanted to improve the energy performance of TriPoint Medical Center. Karpinski Engineering served as MEP engineer, owner's rep, and construction administrator to develop a focused scope of energy projects for the 300,000-square foot hospital. Karpinski sought out energy conservation measures that would have the greatest impact on system operations and the bottom line. Examining TriPoint's systems in detail Karpinski put together projects that addressed both the building and the central plant including LED lighting retrofits, air distribution reduction sequencing, VAV box minimum setpoint sequencing, and boiler and chiller plant optimization.



Honor Awards

C&S Companies

Youngstown Warren Regional Airport Midfield Taxiway Improvements

C&S provided full engineering and program management services for this high impact safety project which included planning, environmental, design, construction administration and observation services. Between 2001 and 2010, seventeen runway incursions were reported at the Youngstown Warren County Regional Airport and since the finished improvements in the fall of 2015 there have been no incursions reported. Serving as a case study for future safety-focused projects at airports, this project was completed under budget as well as ahead of schedule.



Hammontree & Associates, Limited

Akron-Canton Airport Entrance Road Reconstruction

Providing the design services for the Entrance Road Reconstruction Project, Hammontree performed a complete redesign of the loop road and parking lot inside the loop road. While developing solutions for these tasks Hammontree was able to include more efficient lighting and improved drainage for the entire parking lot. Pedestrian safety was enhanced by construction of new sidewalks, and crowding in front of the terminal was reduced by adding commercial lanes to accommodate deliveries. The project has allowed the Akron-Canton Airport to provide a safe, user friendly environment for their patrons.



Honor Awards

Jones-Stuckey, A Division of Pennoni

Stevenson Road Covered Bridge Restoration

The Stevenson Road Covered Bridge was built in 1873 and is one of four surviving original Smith-type timber truss covered bridges in Greene County. The bridge had suffered from vehicle hits due to road alignment, oversized vehicle damage to interior diagonals and damage from a small fire. The goal of the project was to preserve the bridge as a valued historic public work and restore structural capacity. A majority of the truss members were reused. Jones Stuckey created a renovated structure that will stand for another 143 years.



Karpinski Engineering

Center for Innovation in Medical Professions

Karpinski provided mechanical, electrical, and technology design for Cleveland State University's new Center for Innovation in Medical Professions (or CIMP). This center was also constructed starting fresh with a city block, and the Karpinski team worked through different HVAC schemes to select one that was practical, cost effective, and energy-efficient to supply utilities. In this building, Cleveland State University plans to reinvigorate medical education geared toward collaboration, bringing together students in medicine, nursing, and health professions.



Honor Awards

Environmental Design Group

Lakewood Park Solstice Steps

What was originally home to Lakewood City Hall in 1918 and eventually turned into a landfill, is now a beautiful public park for lakefront access on Lake Erie's Coastline. The Solstice Steps were born from a vision to create a community space to enjoy the sunset and has become a catalyst for newfound appreciation for Northeast Ohio's greatest natural resource - Lake Erie. Perched 60 feet above the Lake Erie shoreline, the 480 feet of precast concrete steps curve five tiers with stainless steel ribbon embedded into the steps to align with summer's solstice. Beyond the design complexities, the project required OEPA approvals through their Rule 13 process.



DGL Consulting Engineers

The Anderson's New World Headquarters

DGL assisted with the site selection, planning and final design of the \$54 million new headquarters of the Anderson's in Maumee, Ohio. The site chosen included redeveloping 37 acres of a private golf club. By utilizing LEED principles and incorporating bioretention cells into the parking lot design, the team addressed the client's need for 700 parking spaces with little impact on the environment. DGL's bioretention cell design is currently the largest of its kind in the Northwest Ohio region. This project was completed one month ahead of schedule and on budget.



Honor Awards

Arcadis U.S., Inc.

Rehabilitation of the Anthony Wayne Bridge

The Ohio Department of Transportation (ODOT) hired Arcadis to develop a long term, cost effective rehabilitation strategy with low maintenance details to preserve the only remaining cable suspension bridge in Ohio. Key project goals included asset preservation, safety, and minimal disruption to local traffic movements. The bridge rehabilitation preserved distinctive bridge features, while modern technology was incorporated. Safety and maintenance-related considerations were also integrated into the project's design along with improving the bridge's drainage systems.



Michael Baker International

Lakefront West-W. 73rd Grade Separation

One of the goals of the Lakefront West Project was to enhance neighborhood connectivity with the Lake Erie Waterfront across Norfolk Southern's Chicago Line and the Cleveland Memorial Shoreway. Michael Baker developed detailed design plans for roadway including new bike, pedestrian facilities and streetscape enhancements. The bridge was constructed using top-down construction techniques. About 200 people worked on the project, which included removal of more than 9,000 tons of solid waste, placement of 288 truckloads of concrete and nearly 1.5 million pounds of reinforcing and structural steel.



Honor Awards

Stantec Consulting Services Inc.

Toledo Waterways Initiative- Dearborn CSO Storage Pipeline

Working on behalf of the City of Toledo and as part of the Toledo Waterways Initiative Team, Stantec provided detailed design, construction phase engineering and RPR services for the Dearborn CSO Storage Pipeline Project. The Dearborn Storage Pipeline allows a wet weather event exceeding the capacity of the combined sewer system to flow into the storage pipeline by gravity where it is temporarily stored. This project was completed on time, within budget and created minimal disturbance to the local community.



EMH&T

Minford Area Sanitary Sewer

Spanning over seven years from the preliminary engineering report through final design, EMH&T helped enable development and growth while reducing environmental impacts for this unincorporated area of Scioto County. Environmental considerations involved wetland delineations for 50 stream crossings, and more than 40 hazardous, toxic, radioactive waste site investigations. The project included well over 30 miles of new sanitary sewer lines through difficult terrain, 800 manholes, two large capacity regional pumping stations, 13 smaller capacity local lift stations and a treatment plant to serve 1,340 previously unsewered customers.



Honor Awards

IBI Group

STA-153-12th Street Corridor Improvements

The 12th Street Corridor is a major east-west corridor connecting I-77 to the east side of the City of Canton. The project initiated as a traffic study in 2008 when the City commissioned IBI Group to investigate safety concerns at the intersection of 12th Street and Market Street, which the Stark County Area Transportation Study deemed as the most hazardous intersection in the City. The improvements consisted of extensive roadway, traffic signal and streetscape improvements along 12th Street creating transportation connectivity and a sense of community for this gateway into Canton.



Gresham, Smith & Partners

T.F. Green Airport Deicer Management System

With more stringent discharge criteria, the T.F. Green Airport in Warwick, Rhode Island needed an enhanced deicer management strategy to capture spent deicer glycol more efficiently. GS&P designed a new system that allows aircraft to deice at their gates, passively collecting deicer runoff from the terminal to an innovative treatment facility. The 11,000-square foot treatment facility is an anaerobic fluidized bed reactor, only one of four like it in the world. GS&P used its proprietary GlyCAST deicer management model to analyze more than 50 years of weather data, current and future flight schedules and projected growth at PVD. This airport hosted 3.5 million passengers last year and remained fully operational during construction.



Honor Awards

TranSystems Corporation

MIA-CR33-1.81 (Eldean Road)

TranSystems provided structural and rail engineering design services for the railroad bridge replacement on Eldean Road. Innovative superstructure design solutions allowed the construction of a new structure on existing alignment, while providing the required vertical clearance and minimizing track interruption and maintaining accessibility for the Troy Elevators Company. Uniquely, the design solution provided the replacement of the railroad structure with a vertical clearance of 14'3" with minimal railroad disruption. This project was done nearly \$2.4 million lower than total project costs anticipated at the PE stage and this project also won the Ohio Conaway Award of the year.



Karpinski Engineering

MetroHealth Critical Care Pavilion

Karpinski served as MEP and civil engineer on the MetroHealth Critical Care Pavilion Vertical Expansion project. The 2-floor, 100,000-SF ICU was completed under a remarkable pair of conditions: maintaining operations and MetroHealth's Level 1 Trauma status as well as meeting an aggressive, year-and-a-half design-to-completion schedule. Through intentional collaboration, open communication, and quick decision-making, the team met both these conditions and created a thoughtfully-design, beautiful space to serve the most critically injured, burned and ill patients for years to come.



Honor Awards

Burgess & Niple, Inc.

Tremont Road Improvement Project

The main street in Upper Arlington, Ohio is Tremont Road, this road connects the library, an elementary school, a park plus many residences and businesses. The Tremont Road Improvement Project was designed to improve safety, operations, accessibility and quality of life for the community. The project included improved intersections, bike lanes and multi-use paths, road diet design and aesthetic enhancements throughout the corridor. The largest capital improvement project in the City's history, Tremont Road was completed ahead of schedule before the U.S. Golf Association's Senior Open Championship was held in Upper Arlington.



Korda/Nemeth Engineering, Inc.

OhioHealth Neuroscience Center

Korda/Nemeth Engineering was hired as part of the Integrated Project Delivery Team that OhioHealth Corporation commissioned to design their newest patient tower. The nine-story tower includes 224 private rooms and 409,000 square feet dedicated to its brain and spine patients. As part of a Design Build team, Korda provided the HVAC, electrical, and structural engineering for the project. Korda worked with the contractors throughout the design process to collaboratively create systems, and upgrade the existing infrastructure, to support this transformational project. The cohesive working group was able to realize savings of over \$20 million.

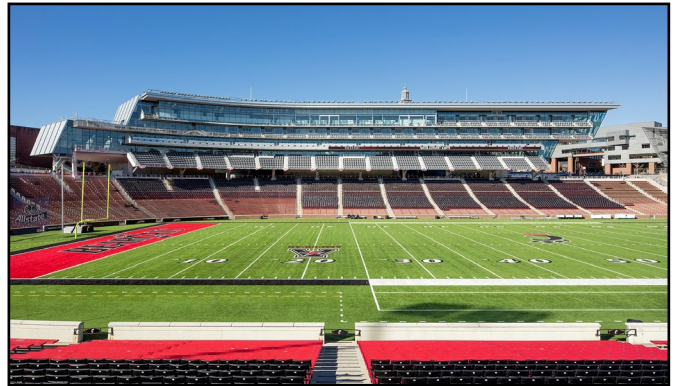


Honor Awards

THP Limited Inc.

Nippert Stadium West Pavilion

The University of Cincinnati hired THP Limited Inc. to design a spectacular new \$86 million venue. The building's shape and design evolved out of innovative solutions to several challenging site constraints, including proximity to Tangeman University Center, a busy loading dock, fire lane, and avoiding of the University's main utility tunnels below the building. The final design included a dramatic 60-foot north cantilever, a 178-foot long curved column-free span over the loading dock and a 1,400-square foot outdoor terrace for special events. Through creative design and innovative framing concepts, the building meets the challenging needs of the University, the football team, the fans, and the student body.



Previous ACEC Ohio Grand Award Winners

- 2016 **AECOM** – University Medical Center New Orleans
- 2015 **HNTB Ohio, Inc.** – I-90 George V. Voinovich Innerbelt Bridge
- 2014 **URS Corporation** – Spaceport America Terminal & Hangar Facility
- 2013 **THP Limited, Inc.** – Central Riverfront Garage – Phase 2
- 2012 **ms consultants, inc.** – I-70/I-71 Columbus South Innerbelt Study
- 2011 **DLZ Ohio, Inc./HNTB/Spiro Pollalis** – Main Street Bridge Replacement
- 2010 **Wilbur Smith Associates** – Euclid Corridor Transportation Project
- 2009 **THP Limited Inc.** – The Ascent at Roebling’s Bridge
- 2008 **FIGG** – Veterans’ Glass City Skyway
- 2007 **HNTB Corporation** – Perry Street Bridge Replacement
Karpinski Engineering – Cleveland State University Recreation & Wellness Center
- 2006 **DLZ Ohio, Inc.** – River Chamber Stabilization & Demolition – Charleroi Locks & Dam
- 2005 **Lantz Jones Nebraska Inc.** – Knowlton Hall School of Architecture
- 2004 **Burgess & Niple, Inc.** – West Columbus Flood Protection Project
- 2003 **W. E. Monks & Co.** – Honda Transmission “Green” Building
- 2002 **Parsons Brinckerhoff Ohio, Inc.** – Fort Washington Way Reconstruction
- 2001 **Civil Design Associates, Inc.** – Atwood Lake Sewer System Phase I
- 2000 **Malcolm Pirnie, Inc.** – Aircraft Deicer Runoff Pilot Plant Treatability & Modeling Study