

Murray Lane/Holly Tree Gap Roundabout CEI Services | Brentwood, Tennessee
City of Brentwood | Brentwood, Tennessee
Barge Design Solutions | Nashville, Tennessee



CEI services maximized a challenging 10-week schedule for a new roundabout construction.



The new roundabout was open before school started in August, minimizing traffic disruption.

The City of Brentwood promotes an active community committed to infrastructure that supports a thriving population. When the City saw a need to improve traffic flow and safety at the 3-way intersection of Murray Lane and Holly Tree Gap, it teamed with Barge Design Solutions (Barge) to provide construction, engineering, and inspection (CEI) services for a new roundabout. The project was challenging from the start with the City’s request for a 10-week schedule, minimized traffic disruption during construction, and a finalized roundabout open to traffic before the start of the new school year.

Barge’s strategic planning, collaboration with City and contractor teams, and meticulous oversight kept the team on track despite

challenges and complexities. Utility relocations had to be made for power, data, gas, a new water main, and a sewer main. The subgrade did not pass proof roll testing, requiring additional work and a change order to address costs. Also, several designed storm structures conflicted with an existing gas line. Leaning on innovation for a solution, Barge made field adjustments to the storm structures to avoid conflicts with the existing gas main and new water main, adhering to the schedule.

Barge’s balance of flexibility and firmness supported timelines, maintained standards, safety, and specifications, and minimized disruptions to complete the project on schedule, just in time for back-to-school traffic.



The 10-week project opened on time due to Barge’s firm yet reasonable CEI services.



Excavation supported proper installation without compromising adjacent areas.



Drainage structures were field-modified to avoid utility conflicts.



Resident safety was prioritized throughout the project.





Dining Hall entrance



Dining Hall with meadow plantings, part of the stormwater solution



Bioretention with stone wall



Geo-exchange piping

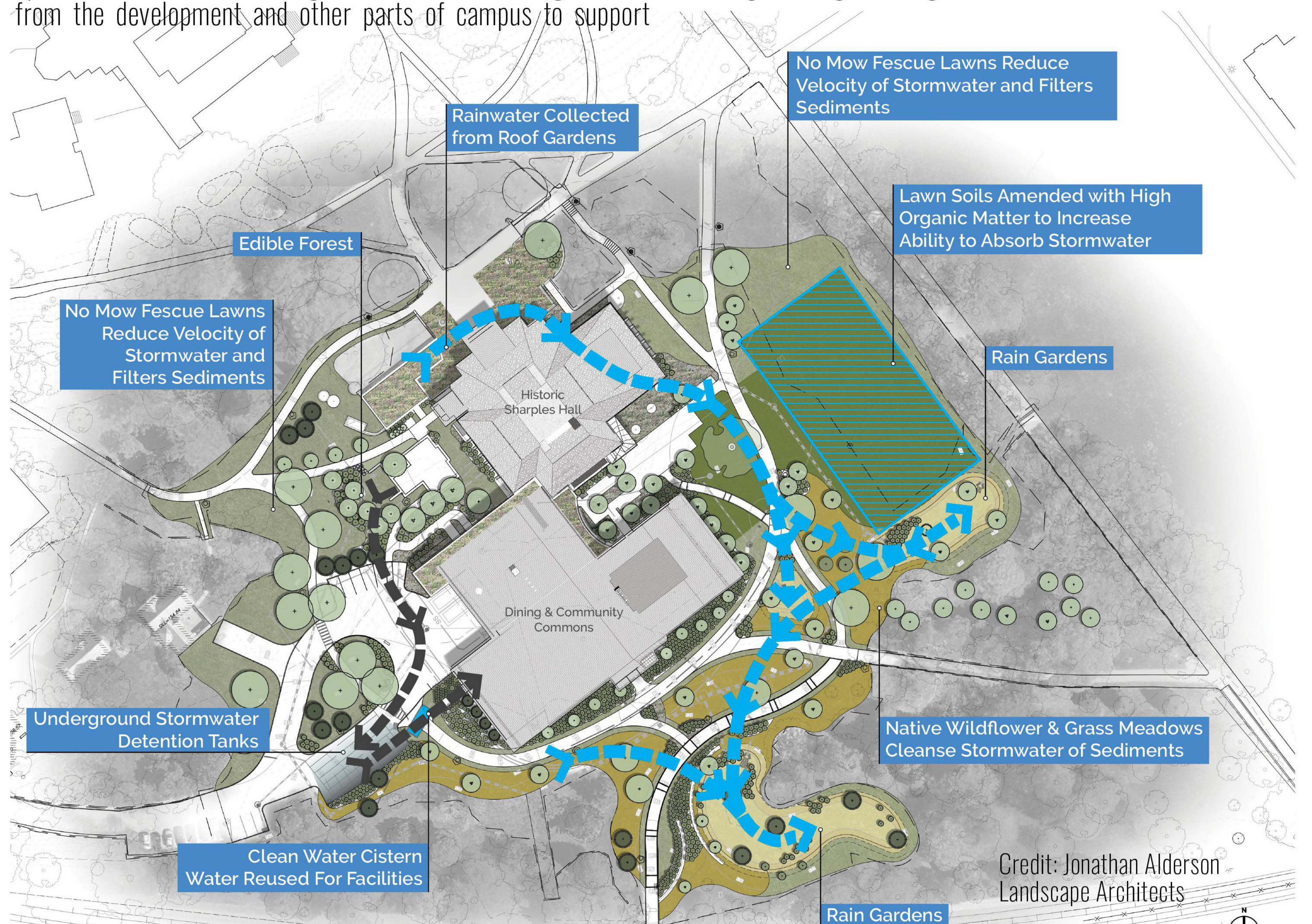


SUSTAINABILITY/STORMWATER PRACTICES

SHARPLES DINING HALL AND COMMUNITY COMMONS | SWARTHMORE COLLEGE | SWARTHMORE, PA

Langan helped blend the expansion of the new campus commons into the surrounding arboretum landscape, spearheaded the land development approval process, designed routes for geothermal-exchange pipes and distribution lines, and completed a 3D laser scan of the utility tunnel so it could be repurposed. We also optimized stormwater management areas to manage runoff from the development and other parts of campus to support

Swarthmore's sustainability commitment to reduce downstream effects from runoff. The sustainable stormwater design included green roofs, terraces, bioretention areas, a cistern for reusing rainwater, soil amendments, and an underground infiltration bed. Langan's contributions played a vital role in the team's pursuit of a Living Building Challenge certification.



LANGAN
PHILADELPHIA, PA

ACEC ENGINEERING
EXCELLENCE AWARDS

Fort Madison Marina Rehabilitation

Fort Madison, Iowa

ENTRANT

KLINGNER

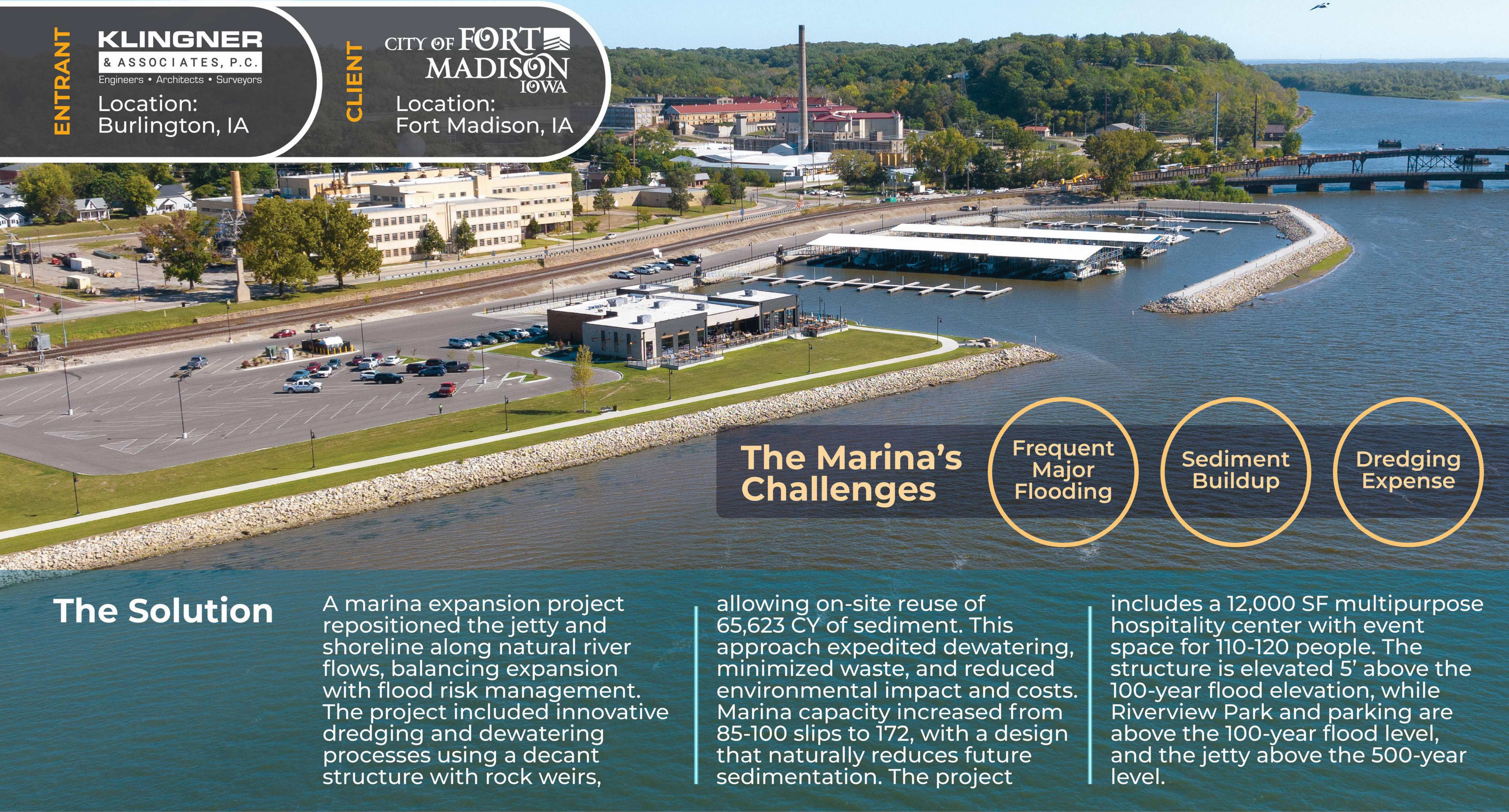
& ASSOCIATES, P.C.
Engineers • Architects • Surveyors

Location:
Burlington, IA

CLIENT

CITY OF **FORT
MADISON**
IOWA

Location:
Fort Madison, IA



The Marina's Challenges

Frequent
Major
Flooding

Sediment
Buildup

Dredging
Expense

The Solution

A marina expansion project repositioned the jetty and shoreline along natural river flows, balancing expansion with flood risk management. The project included innovative dredging and dewatering processes using a decant structure with rock weirs,

allowing on-site reuse of 65,623 CY of sediment. This approach expedited dewatering, minimized waste, and reduced environmental impact and costs. Marina capacity increased from 85-100 slips to 172, with a design that naturally reduces future sedimentation. The project

includes a 12,000 SF multipurpose hospitality center with event space for 110-120 people. The structure is elevated 5' above the 100-year flood elevation, while Riverview Park and parking are above the 100-year flood level, and the jetty above the 500-year level.



The on-site dredge basin in December 2021 before dredging began, showcasing the exposed rock weirs

INNOVATION

- Implemented rock weir dewatering system that expedited dredge material drying time
- Used 65,623 CY of dredged material to elevate the park, saving \$5.2M in hauling and fill costs
- Designed marina layout to naturally minimize future sedimentation through strategic positioning

COMPLEXITY

- Navigated strict environmental parameters for permitting
- Managed 11 different bid packages to separate work by funding source
- Engineered solutions within FEMA/USACE regulations while meeting community vision

Expanded Facility Grew the marina from 5.48 to 7.24 acres (32% increase) without impacting the flood profile

Flood Resilient Elevated the jetty, parking, and hospitality center to protect against major flood events

Sustainable Design Minimized waste and the project's environmental footprint by dewatering and reusing dredge materials

Making It Happen!

CLIENT: MCEDA/AWS

LOCATION: Canton, Mississippi



• In 3 months

- 155,000 CUBIC YARDS OF TOPSOIL STRIPPING
- 624,000 CUBIC YARDS OF UNCLASSIFIED EXCAVATION



• We delivered

- 588,000 CUBIC YARDS OF ONSITE BORROW EXCAVATION
- 17,412 TONS OF HYDRATED LIME



• AWS success!

- 35,000 TONS OF CR-610 LIMESTONE FOR BUILDING PAD SURFACES
 - 1.367 MILLION CUBIC YARDS OF EARTHWORK
- (Averages 13,000 per day over 100 days accounting for 55 rain days.)

WAGES CIVIL_{LLC}

Civil Engineering Consultant

BURNS COOLEY DENNIS, INC. Geotechnical and Materials Engineering Consultants

A LANDMARK "SPEED-TO-MARKET" ACHIEVEMENT.

The AWS project exemplified innovative collaboration, showcasing how strategic partnerships can accelerate complex initiatives and yield substantial economic benefits and community prosperity.

The state of Mississippi, MCEDA, and Entergy working together over a 5-year period, announced in January 2024 that Amazon Web Services (AWS) was investing \$10 Billion to establish multiple data center complexes in Madison County, the largest investment in Mississippi's history by four times the amount. Since 2011, AWS has invested \$108 Billion in digital transformation, with \$10 billion invested in Mississippi. AWS was clear that this project needed an electric utility partner that could scale quickly to meet their needs and a state that could match their desire for "speed-to-market." We Delivered!

ATA DUBOIS OPERATIONS FACILITY

DuBois, Pennsylvania

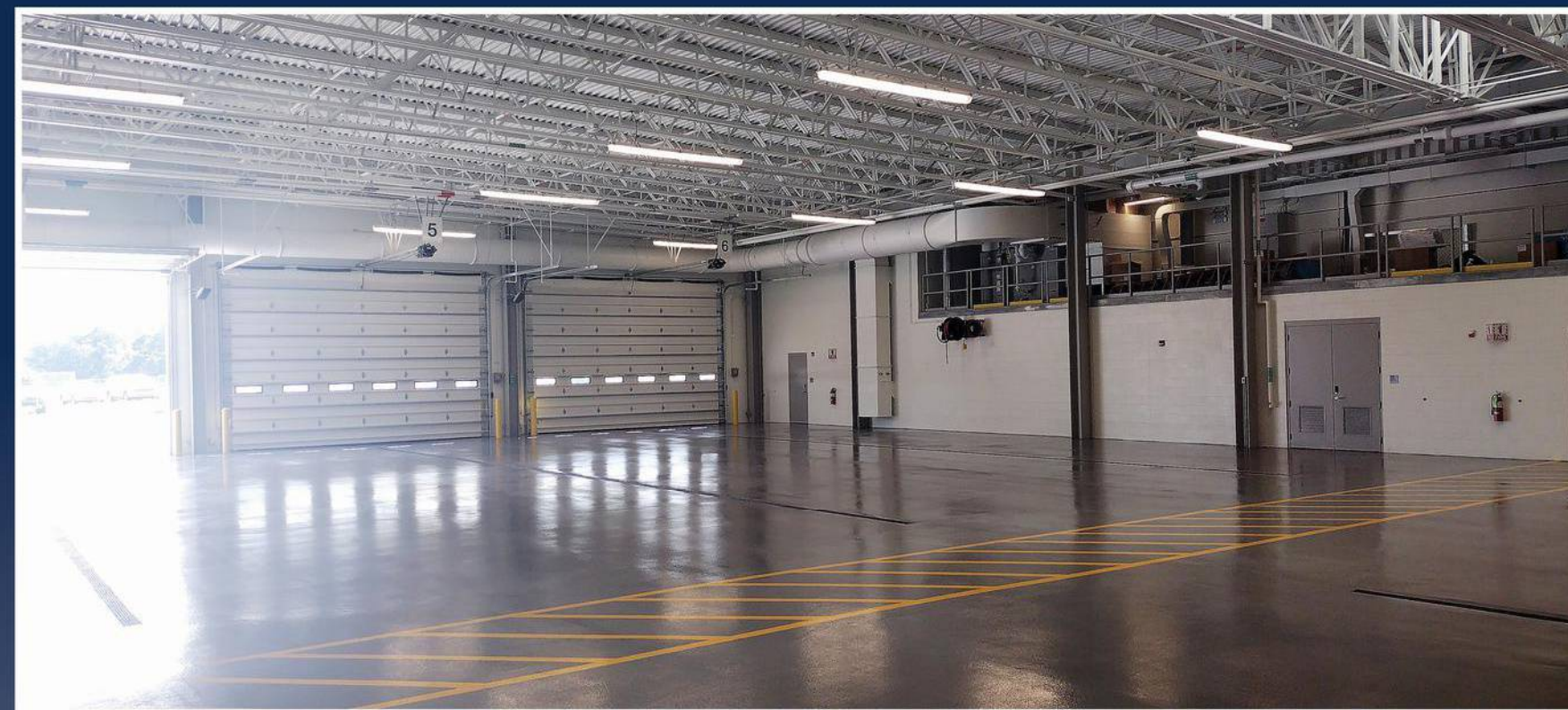
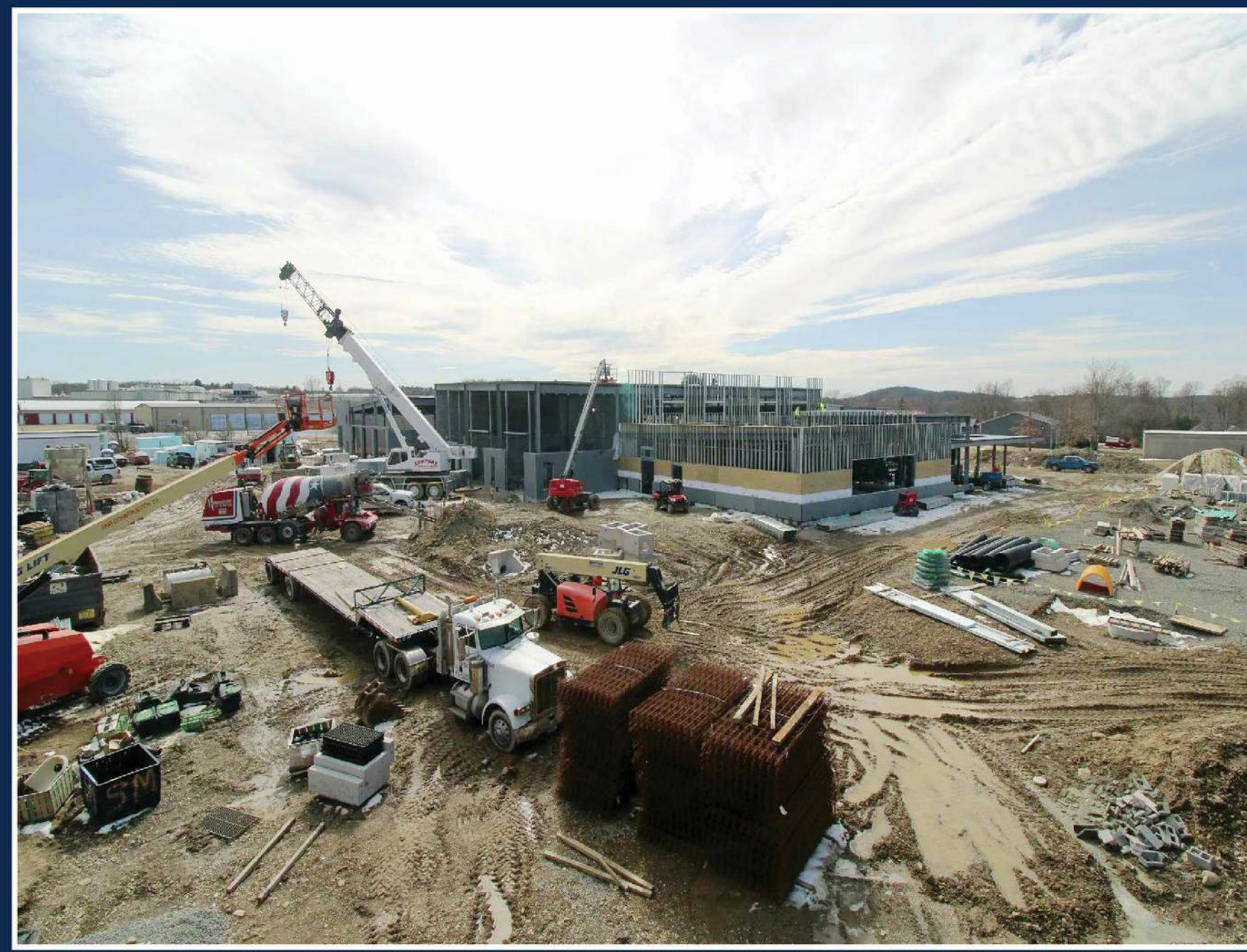
The Area Transportation Authority of North Central Pennsylvania (ATA) is the first regional, rural transportation authority in Pennsylvania and among the first of its kind in the United States. ATA operates in Cameron, Clearfield, Elk, Jefferson, McKean and Potter counties. The ATA system is an extensive network of routes – including fixed-route bus service, paratransit service and vanpool service.

As part of ATA's mission to continually innovate to best serve the area's traveling public, the Authority wanted to upgrade its infrastructure and built a new 48,671 square foot facility that includes an administrative area, maintenance area, bus wash, storage area, on-site fueling station and a circulation area.

The new ATA DuBois Operations Facility, located in DuBois, Pennsylvania, is the operations and maintenance hub for ATA's southern division, which serves Clearfield and Jefferson counties. The facility serves as a base for all ATA employees operating out of these counties and provides an increased amount of indoor storage for ATA vehicles. It also offers an environment for safe and efficient vehicle preventive maintenance and repair, fueling and cleaning.

Michael Baker International served as the project's construction manager and oversaw the demolition of the old facilities, as well as the construction of the new facility.

Ground was broken for the facility in May 2022 and construction was completed in May 2024. This forward-thinking facility is supporting ATA in providing safe and affordable transportation for the residents of Clearfield and Jefferson counties.





ROUTE D RSA

ST. LOUIS, MISSOURI

MODOT - CHESTERFIELD, MISSOURI

GBA - LENEXA, KANSAS

After identifying approximately 5.8 miles of Route D (locally known as Page Boulevard and Dr. Martin Luther King Jr. Drive) in St. Louis, MO, for a routine resurfacing, The Missouri Department of Transportation (MoDOT) selected the corridor for a Road Safety Audit (RSA), based on high crash rates that were up to six times the statewide average for similar roadways. GBA collaborated with Shockey Consulting and Trailnet to conduct an RSA that integrated traditional data analysis with extensive public engagement. The primary goals of the RSA were to:

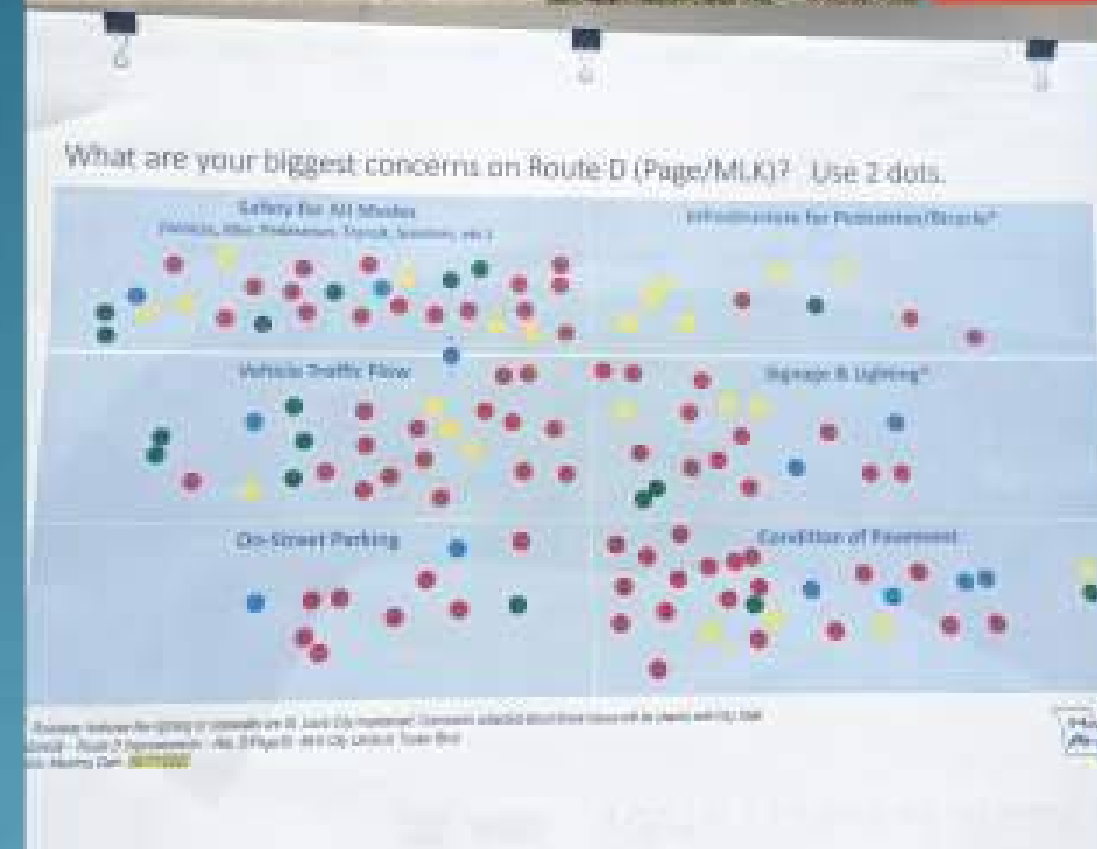
- Document and assess existing traffic data and roadway conditions.
- Identify countermeasure alternatives to improve corridor safety.
- Involve the community by working directly with them throughout the process to understand their concerns and aspirations.

The RSA recommendations offered both immediate safety improvements to combine with the pavement resurfacing project, and long-term future improvements to be considered. Speeding and aggressive driving were high priority issues to address on the corridor for both MoDOT and the public. The recommended countermeasures for these issues included:

- Reductions in the number and width of lanes.
- Dedicated turn lanes and traffic signal upgrades.
- Full access intersection conversions to Right-in/Right-out or Roundabouts.
- The addition of raised medians and curb extensions or bulb-outs.
- Access management improvements.
- Pedestrian crossing visibility enhancements.



THROUGH SURVEYS, FOCUS GROUPS, A PUBLIC MEETING AND A TEMPORARY SAFETY DEMONSTRATION, THE TEAM PROVIDED MODOT WITH AN ASSESSMENT THAT THOROUGHLY DOCUMENTED THE PUBLIC'S CONCERNS AND THE EXISTING CONDITIONS ALONG THE CORRIDOR AND OPTIONS TO ADDRESS THE AUDIT'S FINDINGS.



Resolving unprecedented flooding at the Cleveland Park Metro Station and improving life for the community.

Cleveland Park Streetscape and Drainage Improvement Construction Management Services

Washington, DC, USA

Category I: Special Projects

The Cleveland Park Streetscape and Drainage Improvement Project, completed in March 2024, revitalized the Connecticut Avenue corridor in Washington, D.C., providing construction management services to improve infrastructure and public safety. Led by PRIME AE, FOXXSTEM, and KCI, the \$10.4 million project addressed unprecedented flooding near the Cleveland Park Metro Station while enhancing pedestrian accessibility, sustainability, and the local shared space.

Innovations included advanced stormwater management techniques with Low Impact Development (LID) features like permeable pavements and Water-Quality Catch Basins. These improvements reduced flooding, improved water quality in the Rock Creek Watershed, and showcased cutting-edge urban stormwater solutions.

The project also upgraded pedestrian and vehicular safety with ADA-compliant curb ramps, high-visibility crosswalks,

and modern traffic signals. The revitalized streetscape, featuring wider sidewalks and public seating, boosted local business accessibility and community engagement.

Cost savings of over \$470,000 were reinvested to expand the project scope, demonstrating efficient management. This project exemplifies sustainable, community-centered urban infrastructure that enhances safety, accessibility, and environmental health for future generations.

CLIENT NAME

District Department of Transportation | Washington, DC

ENTERING FIRM NAMES

PRIME AE Group, Inc. | Baltimore, MD

FOXXSTEM | Washington, DC

KCI Technologies | Sparks, MD



BEFORE



Pedestrian safety improvements, and enhancements to the public realm were of the utmost importance. One of the foremost outcomes of this project is its positive impact on pedestrian safety.



Innovative Low Impact Development technologies were utilized, demonstrating a breakthrough in urban stormwater management.



MONTGOMERY WHITEWATER MAKES WAVES

5

of the largest
submersible pumps in
the world

2024

Time Magazine's
**Greatest
Places**
in the world

12

Million
gallons of water

Revitalizing the local economy of Montgomery with water

Montgomery Whitewater Park is a world-class recreation hub that revitalized the City of Montgomery. The project features an Olympic-standard whitewater channel and a variety of other activities. Through the collaborative engineering efforts of Goodwyn Mills Cawood and Calibre-S2o the park exemplifies engineering ingenuity and environmental stewardship. Its impact extends to inspiring future engineers, fostering community engagement, and driving economic growth. The project was named one of Time Magazine's World's Greatest Places 2024 and was home to the 2024 Olympic Trials for Kayak/Slalom.



Project:

Montgomery Whitewater Park
Montgomery, AL



Firms:

Goodwyn Mills Cawood, Montgomery, AL
Calibre Engineering/S2o, Highlands Ranch, CO



Client:

Montgomery County Community
Cooperative District, Montgomery, AL

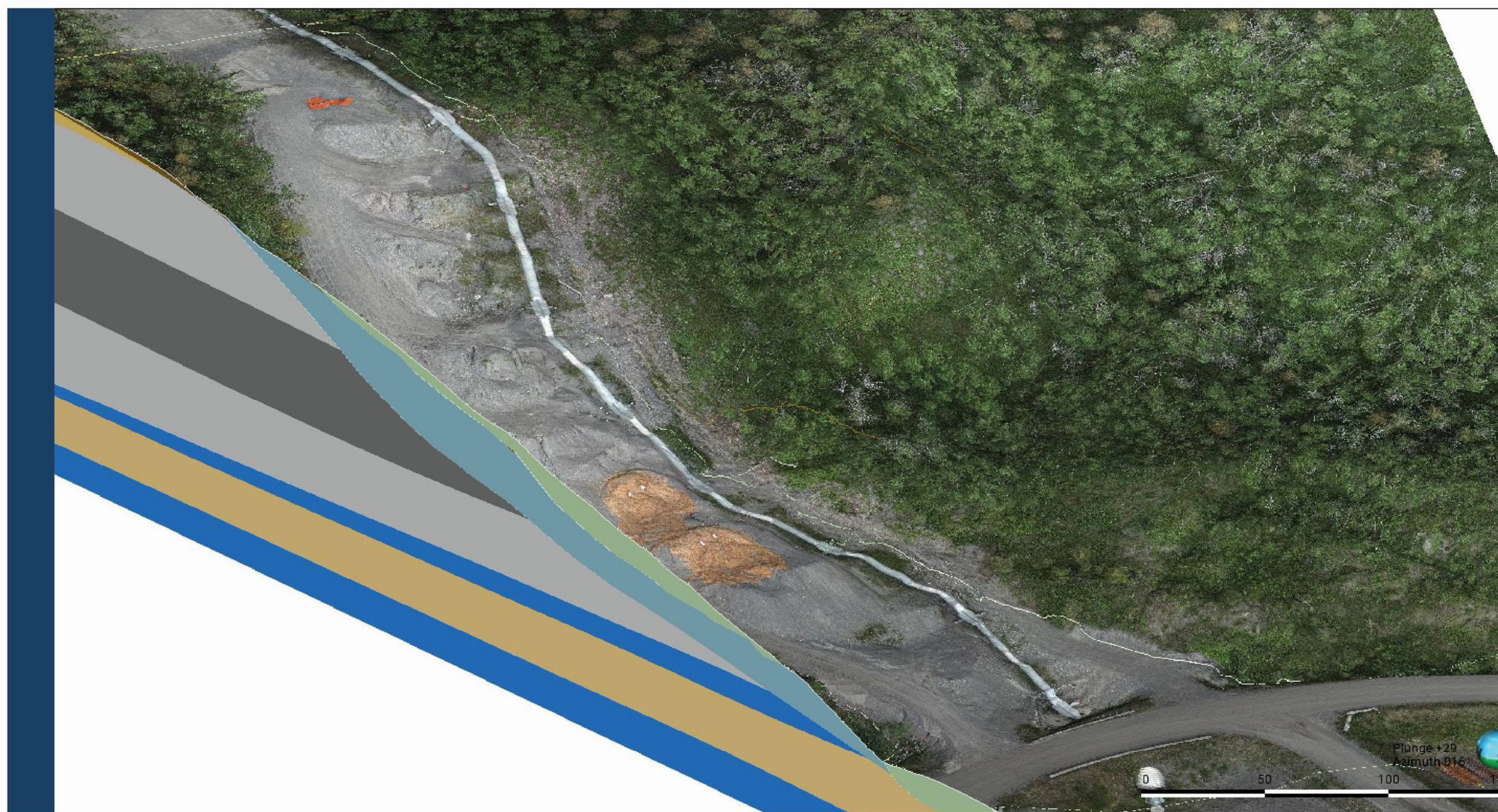


TAPS–GLENALLAN RESPONSE BASE HILL SLOPE STABILIZATION

GLENALLEN, ALASKA

CLIENT/OWNER: Alyeska Pipeline Service Company | Fairbanks, AK
ENTRANT: Shannon & Wilson | Seattle, WA

Alyeska's Glenallen Response Base (GRB) Hill site has complex soil, groundwater, and thermal conditions that caused several landslides during and since the construction of the Trans Alaska Pipeline (TAPS). The hillside is underlain by glaciolacustrine clay that was marginally stable and posed a landslide risk to TAPS and the critical GRB spill response facility. Shannon & Wilson developed a unique solution that stabilized the slope and pipeline using deep tieback anchors and surface insulation.



SOLVING THE PROBLEM ▲►

- Performed nine-month long anchor load testing in creep susceptible glaciolacustrine clay to obtain critical long-term bond strength. The results allowed us to reduce the number of tieback anchors required to stabilize the slope by more than 50 percent
- Applied innovative emerging (3D subsurface modeling software, LeapFrog) and existing (tieback anchors, woodchip insulation) technologies
- 3D modeling used to pinpoint target the anchor bond zones in specific soil layers while avoiding pipe foundations
- Used sustainable wood waste material as surface insulation site erosion control



▲ SITE CHALLENGES

- Active pipeline on slope and regional spill response facility at base of slope
- Construction on steep ground
- Harsh weather conditions limiting construction window from mid-June through September

◀ ▼ DESIGN CHALLENGES

- Published anchor bond strength values for glaciolacustrine clay are low because of long-term creep potential
- Threading the 100- to 130-foot-long tieback anchors between the existing pipeline support foundations and active geotechnical instrumentation
- Complex groundwater conditions driven by seasonal snow melt and 20-foot frost depth



ACTIVATING MEMPHIS

Memphis, TN

1 Photo 1 illustrates a design exhibit utilized by the design team to assist the City in determining the final color palette and pattern layout for the decorative street coating located at the Poplar Avenue and Alabama Street intersection and adjacent area. The image was used to facilitate conversations with the City and project team to confirm final implementation goals and strategies for this anchor location.

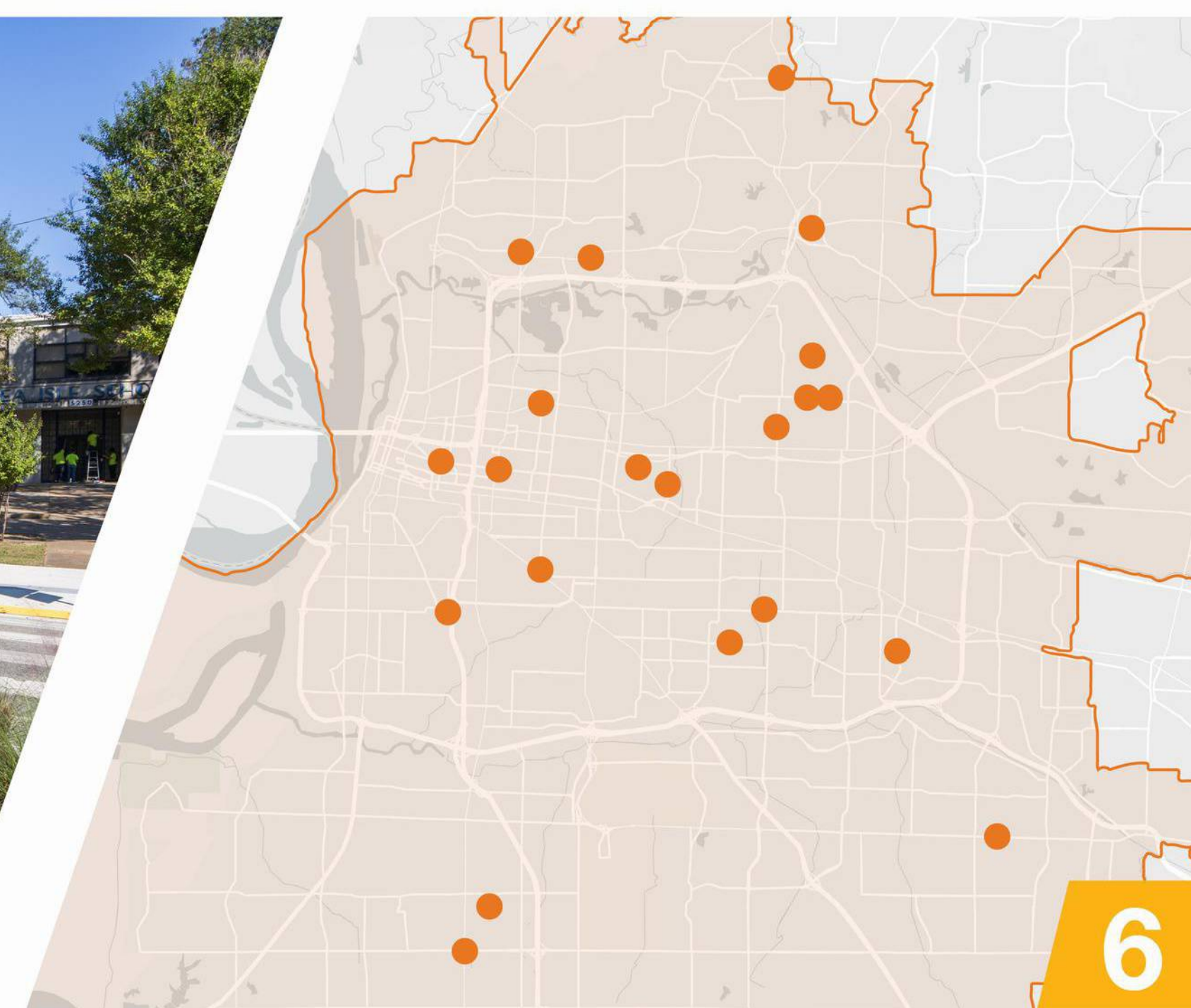
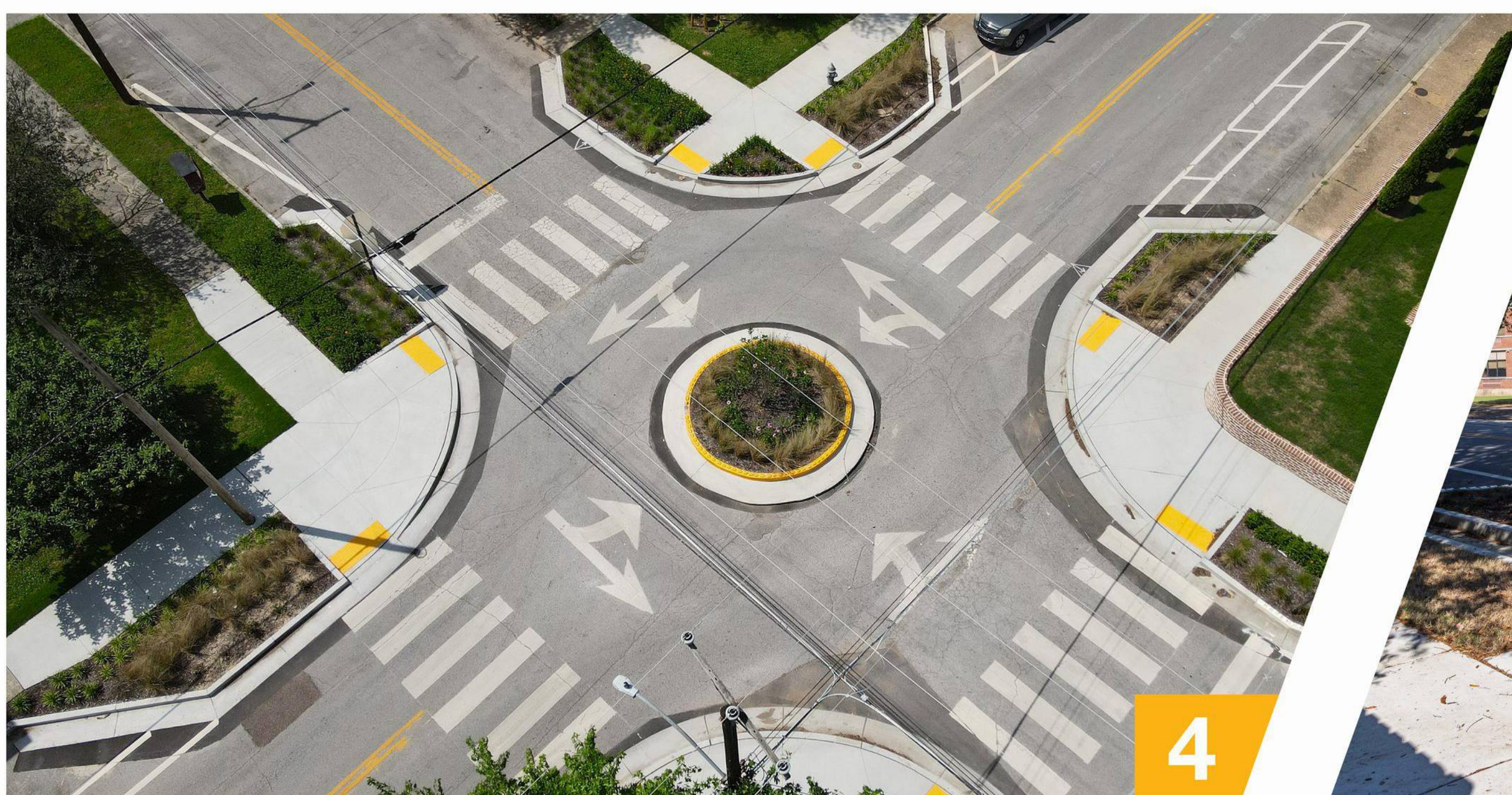
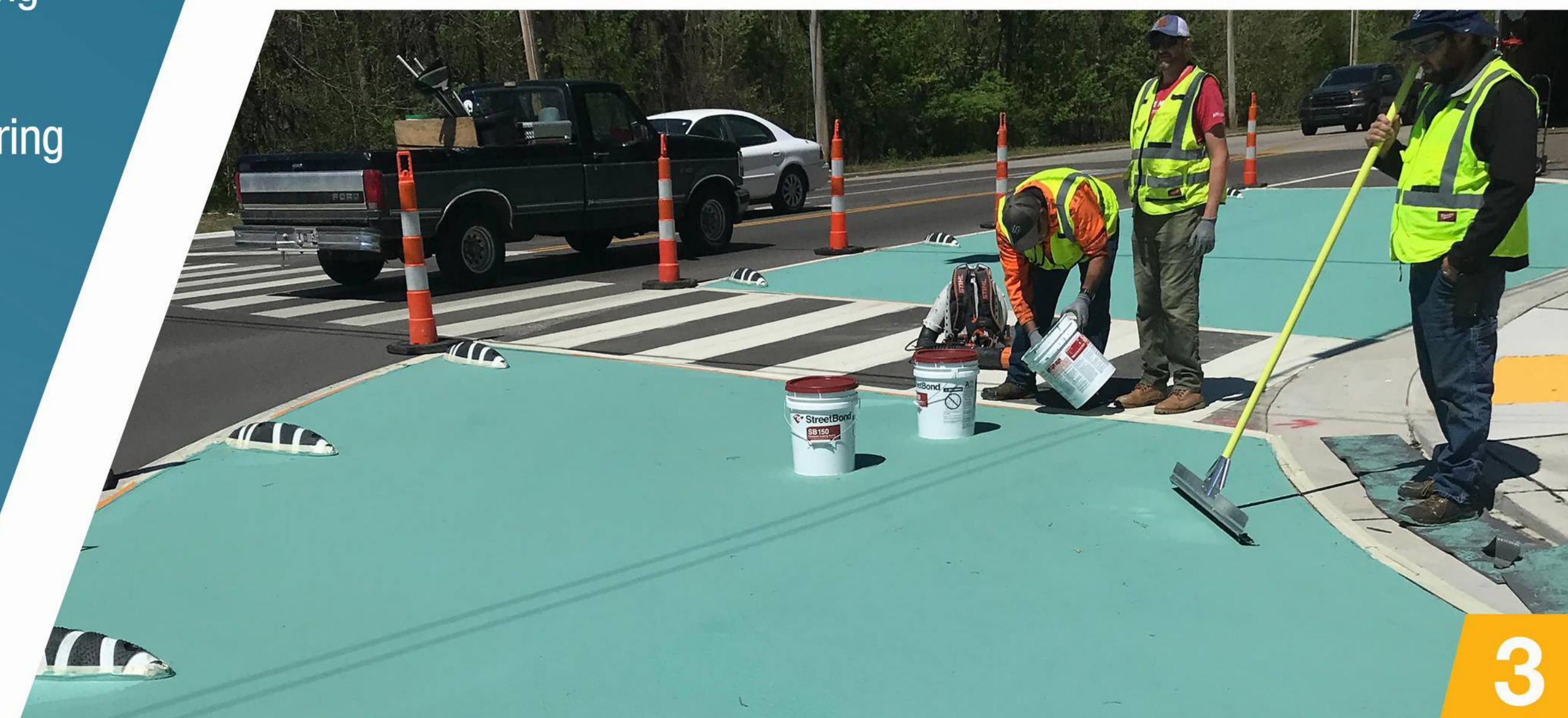
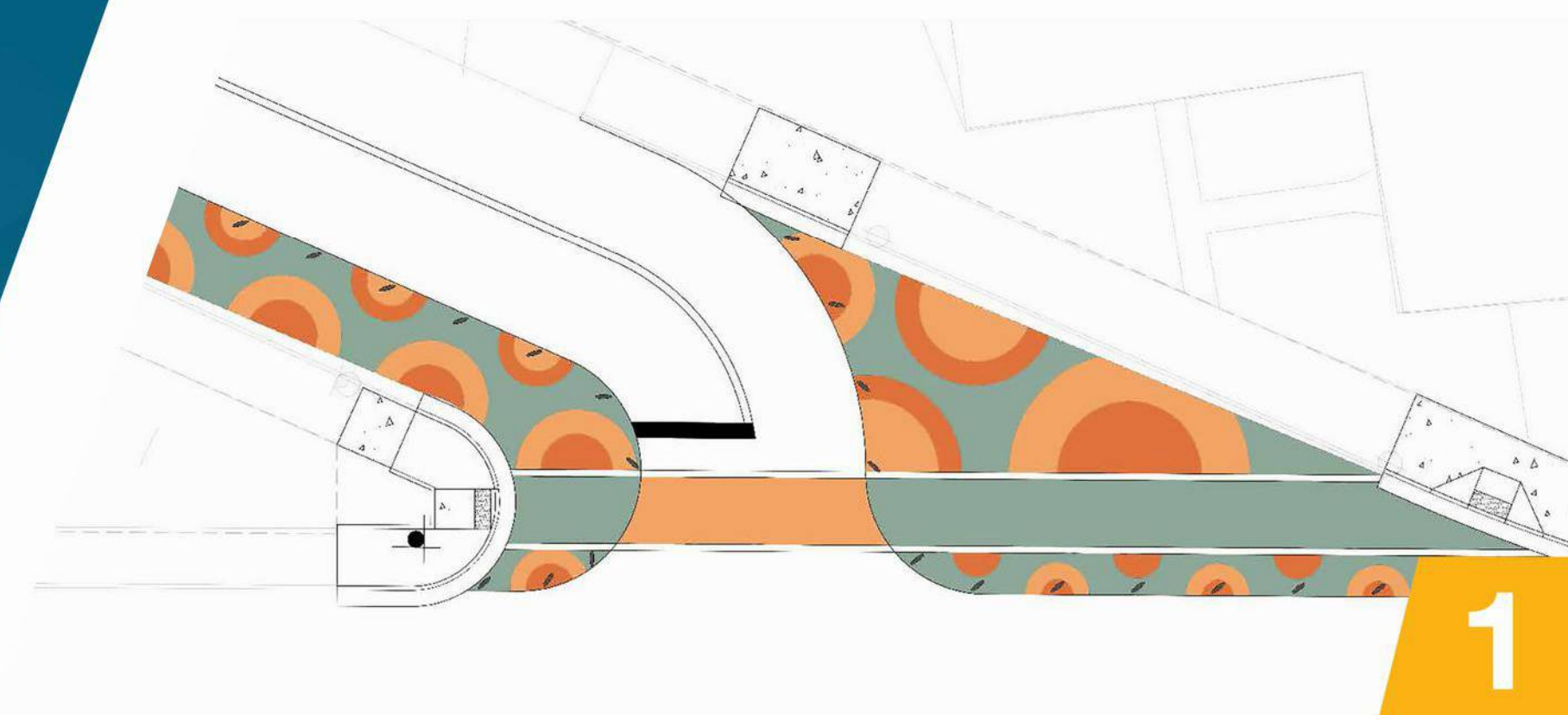
2 Showcases an aerial view that brings to life the concept and vision of the Poplar Avenue at Alabama Street anchor location. The design features, including tightened turning radii to reduce pedestrian crossing distances, vibrant bump outs, and striking “zebra” delineators, serve as effective traffic calming measures. Together, these elements create a safer environment, enhance connectivity, and address infrastructure issues.

3 Shows the construction phase of the Raleigh Millington and Egypt Central anchor location, highlighting the vibrant bump out colors and striped “zebra” delineators. These innovative features are designed to create traffic calming measures and effectively slow vehicles through the intersection.

4 Provides a birds-eye view of the previously oversized intersection of Merton Street and Harvard Avenue. At this location, landscaped bump outs, a traffic circle, reduced lane widths, high-visibility striping, and on-street parking were implemented to provide traffic calming and enhance pedestrian safety. This was especially important due to its proximity to an elementary school. Additionally, new ADA ramps, widened sidewalks, and landscaping all contribute to improving pedestrian accessibility and beautification of the area.

5 Shows the completed streetscape design at Sea Isle Road and Vera Cruz Street, featuring landscape bump outs, crosswalk striping, ADA ramps, and drainage improvements to enhance pedestrian safety near Sea Isle Elementary School. This location was selected as an Early-Stage Development for its high volume of foot traffic, its proximity to school and neighborhood park, and the safety concern over vehicle speeds.

6 Is a map of Memphis, identifying **22 of the Activating Memphis 3.0 anchor locations designed by Kimley-Horn**. These locations were selected during the Memphis 3.0 Comprehensive Planning Process to activate communities and drive economic growth. These areas were strategically chosen to provide equitable investments across Memphis.



ACEC ENGINEERING
EXCELLENCE AWARDS

CLIENT:
CITY OF MEMPHIS
Memphis, TN

ENTERING FIRM:
Kimley»Horn
Memphis, TN

Jackson Park Mobility Improvements Bid Package 1

RESPECT FOR THE HISTORICAL SIGNIFICANCE OF THE PARK

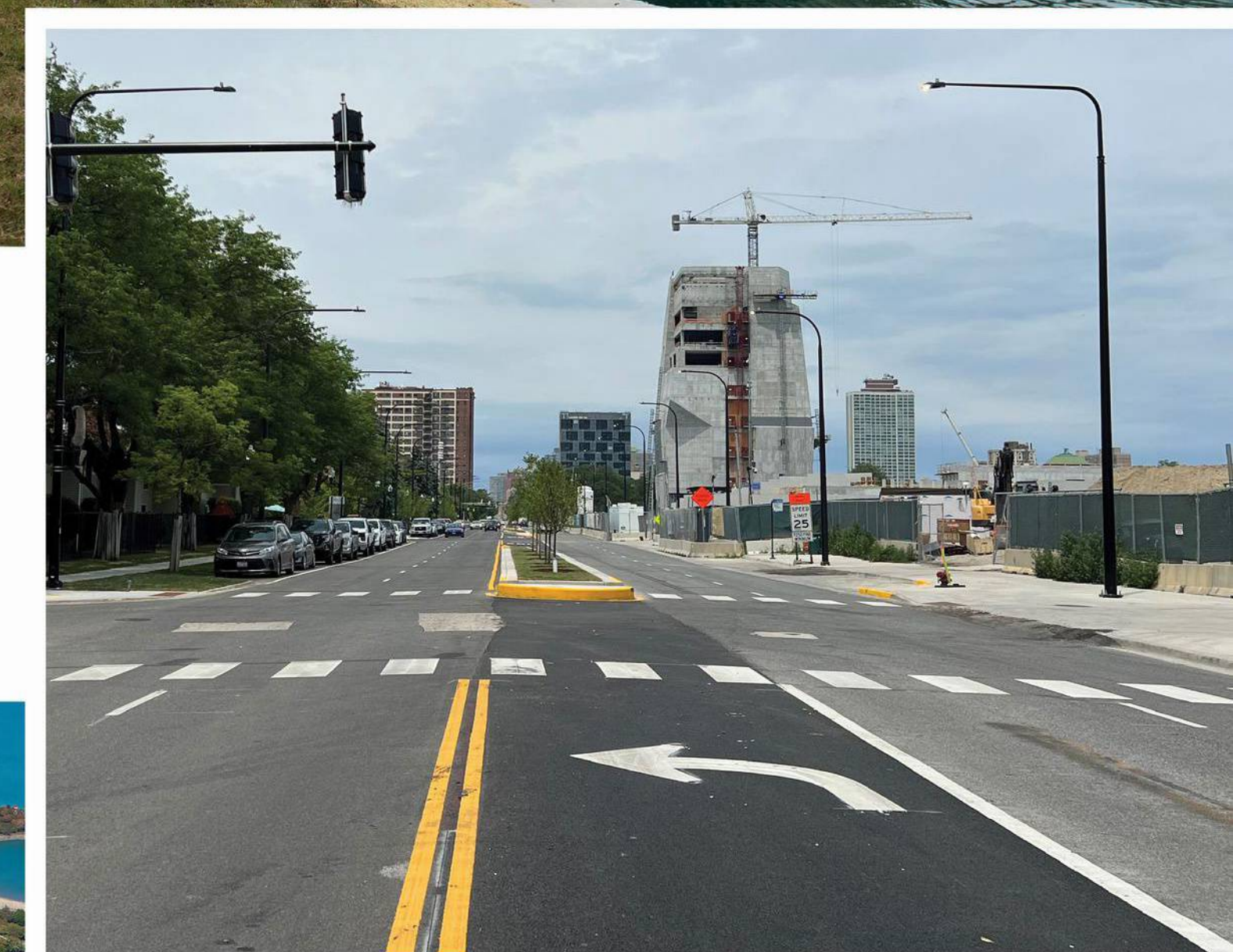
The Jackson Park Mobility Improvements Bid Package 1 Project addressed critical transportation challenges associated with the increased activity surrounding the future Obama Presidential Center (OPC). This initiative aimed to upgrade pedestrian and cyclist safety, improve traffic flow, and enhance accessibility—all while preserving Jackson Park’s historical and ecological character. Innovative solutions maintained the historical character of bridges, underpasses, and streetscapes, demonstrating a thoughtful balance between modernization and conservation.

RESPECT FOR THE COMMUNITY IT SERVES

The project prioritized the needs and safety of residents and visitors, particularly as it supports the Obama Presidential Center (OPC), a cultural and educational hub. By constructing safe underpasses for pedestrians and cyclists, expanding traffic capacity, and installing sustainable flood prevention systems, the project enhanced accessibility and safety. Ardmore Roderick actively engaged with local stakeholders to ensure minimal disruption during significant cultural events. These efforts promoted local engagement and long-term economic growth while ensuring the park remains a vibrant, inclusive space for all.

RESPECT FOR THE CLIENT’S GOALS

Ardmore Roderick’s work reflected a clear understanding of the City of Chicago’s goals. As the Construction Management Leader, the firm met stringent safety, quality, and efficiency standards, ensuring timely project delivery. By completing critical milestones 82 days ahead of schedule, the team facilitated the OPC’s progress and reduced costs through innovative scheduling and negotiation strategies. Ardmore Roderick also excelled in meeting the client’s diversity and workforce objectives, achieving 67% MBE participation against a 10% goal, showcasing their alignment with the client’s values and commitment to fostering inclusivity.



Stephenson Park

STEPHENSON PARK / EDMOND, OKLAHOMA

City of Edmond / Edmond, OK • Freese and Nichols / Oklahoma City, OK



Stephenson Park has a rich history dating back to the late 19th century, and has seen significant improvements over the decades, including the addition of tennis and croquet courts, an elaborate rock garden, and extensive landscaping.

The \$6.5 million Stephenson Park improvements project represents a significant investment in the community's future, blending historical preservation with modern enhancements. This initiative included the installation of a new playground area, a new pavilion/central Lawn area for performances and small events, renovated courts, a water feature, outdoor cafe seating, and lush green spaces, all designed to create a more inviting and functional environment for residents and visitors. By integrating these new features with the park's historical elements, such as an iconic rocket ship slide and rock bridges, the project honors

the park's rich heritage while meeting contemporary needs.

Beyond the park itself, the improvements extended to the surrounding streets, with new parking stalls, street lighting, and landscaping on 4th and 5th Streets. These enhancements not only improve park accessibility and safety but also boost the area's aesthetic appeal, making it more attractive to both residents, businesses and future development. The installation of an underground rainwater detention system highlights the project's commitment to sustainable development, effectively managing stormwater and reducing flood risks. Overall, the Stephenson Park improvements project exemplifies how thoughtful urban planning and engineering can enhance community spaces, fostering social interaction, economic growth, and environmental stewardship.

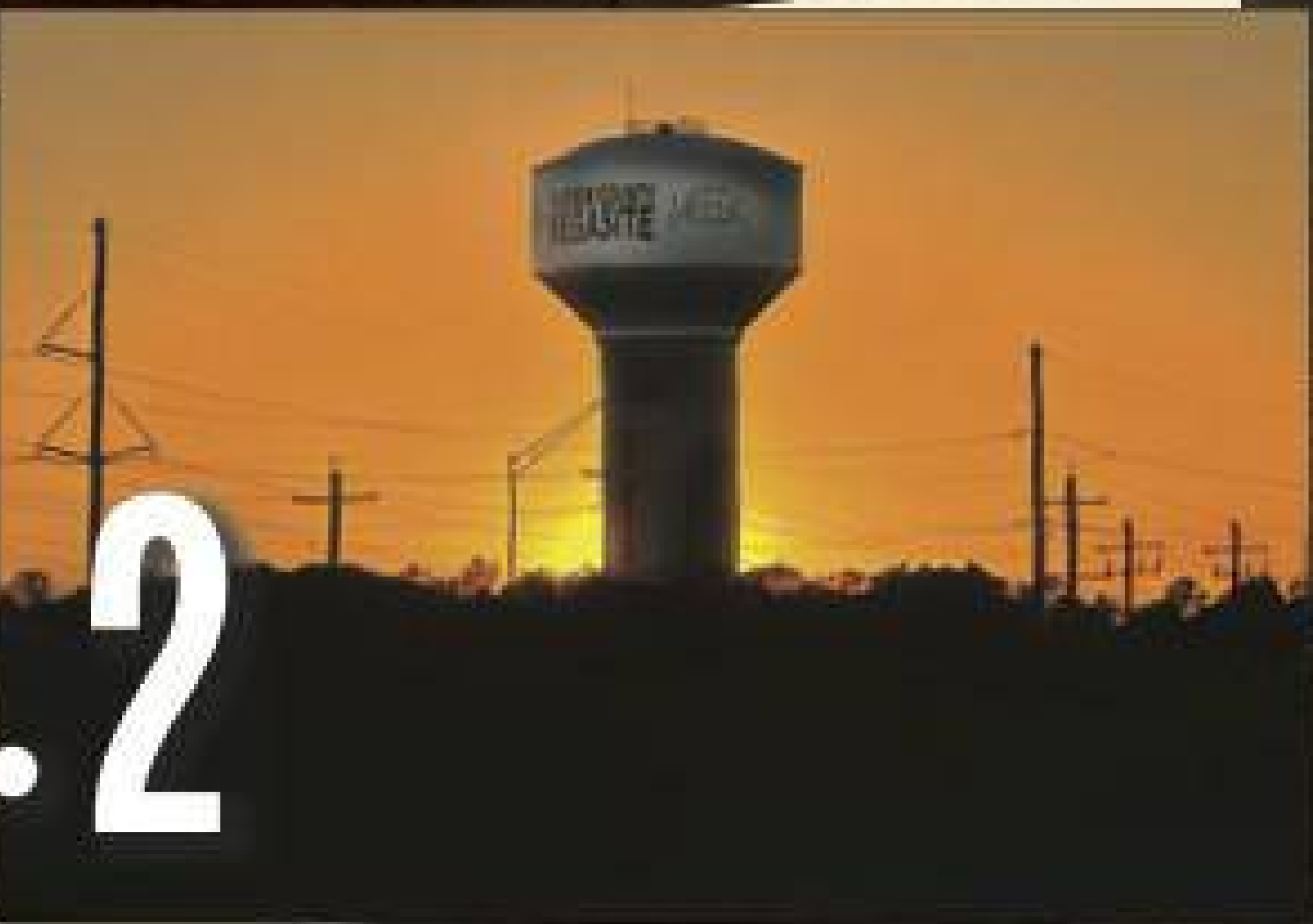




Powering Up Mississippi!

CLIENT: MCEDA / ENTERGY / AWS

LOCATION: Canton, Mississippi



**10 MONTHS TIME
3 SUB STATION SITES**

“Cosmos • Mantaro • Virililia”

WAGES CIVIL_{LLC}

Civil Engineering Consultant

BURNS COOLEY DENNIS, INC. Geotechnical and Materials Engineering Consultants

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ACEC ENGINEERING
EXCELLENCE AWARDS



Innovate Mound was a \$217 million reconstruction project and Macomb County's first design-build project. The nine-mile reconstruction included adding a fourth lane between 17 Mile Road and M-59, as well as new concrete pavement, drainage, curbs and driveways, signal optimization, connected vehicle and fiber optic communications technology, enhanced nonmotorized facilities and energy-efficient lighting.

This reconstruction delivered a user-friendly, inclusive corridor with an increase in mobility and enhanced connectivity in the region. The project transformed Mound Road into a corridor safe for motorized vehicles, bikes and pedestrians. This was accomplished by incorporating cutting edge ITS and signal technologies, as well as redesigning to reduce congestion in one of Michigan's densest manufacturing areas. The redesign featured an ultramodern design and smart technology, creating a 21st-century multimodal corridor.

The corridor is a showcase for the future of transportation safety and mobility, implementing diverse data-smart traffic management strategies, connected and automated vehicle (CAV) technologies and advanced software and automation. Mound Road is a vital community and economic corridor serving as a major hub for national automotive, defense, aerospace and advanced manufacturing industries. This critical corridor faces 70,000 vehicles daily and is home to 71 major employers including Ford, GM, Chrysler and hundreds of small businesses that depend on reliable roadways.

INNOVATE MOUND

INNOVATE MOUND

Sterling Heights and Warren, MI

CLIENT: Macomb County Department of Roads

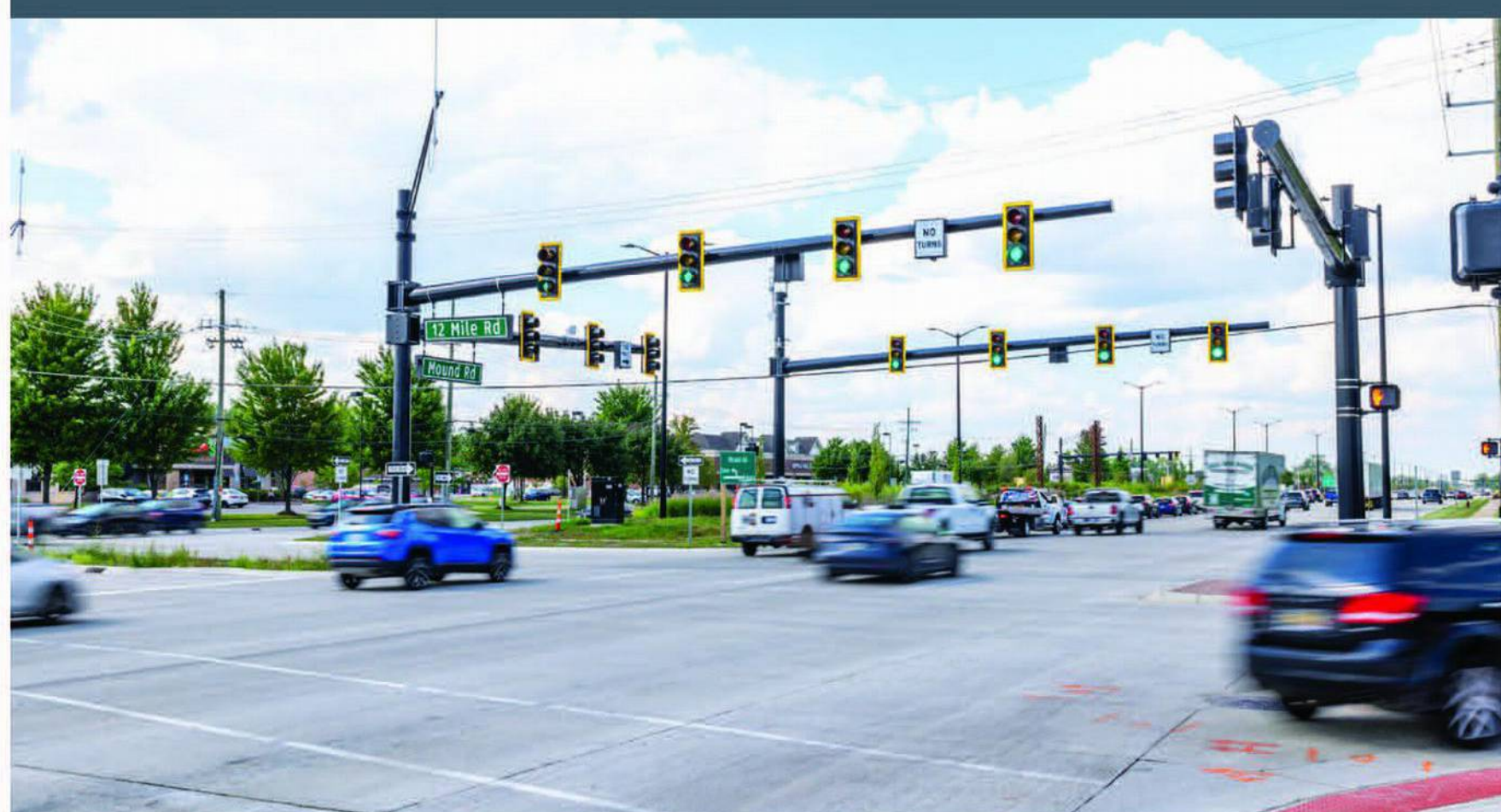
FIRM: HNTB Corporation & AECOM | Sterling Heights, MI

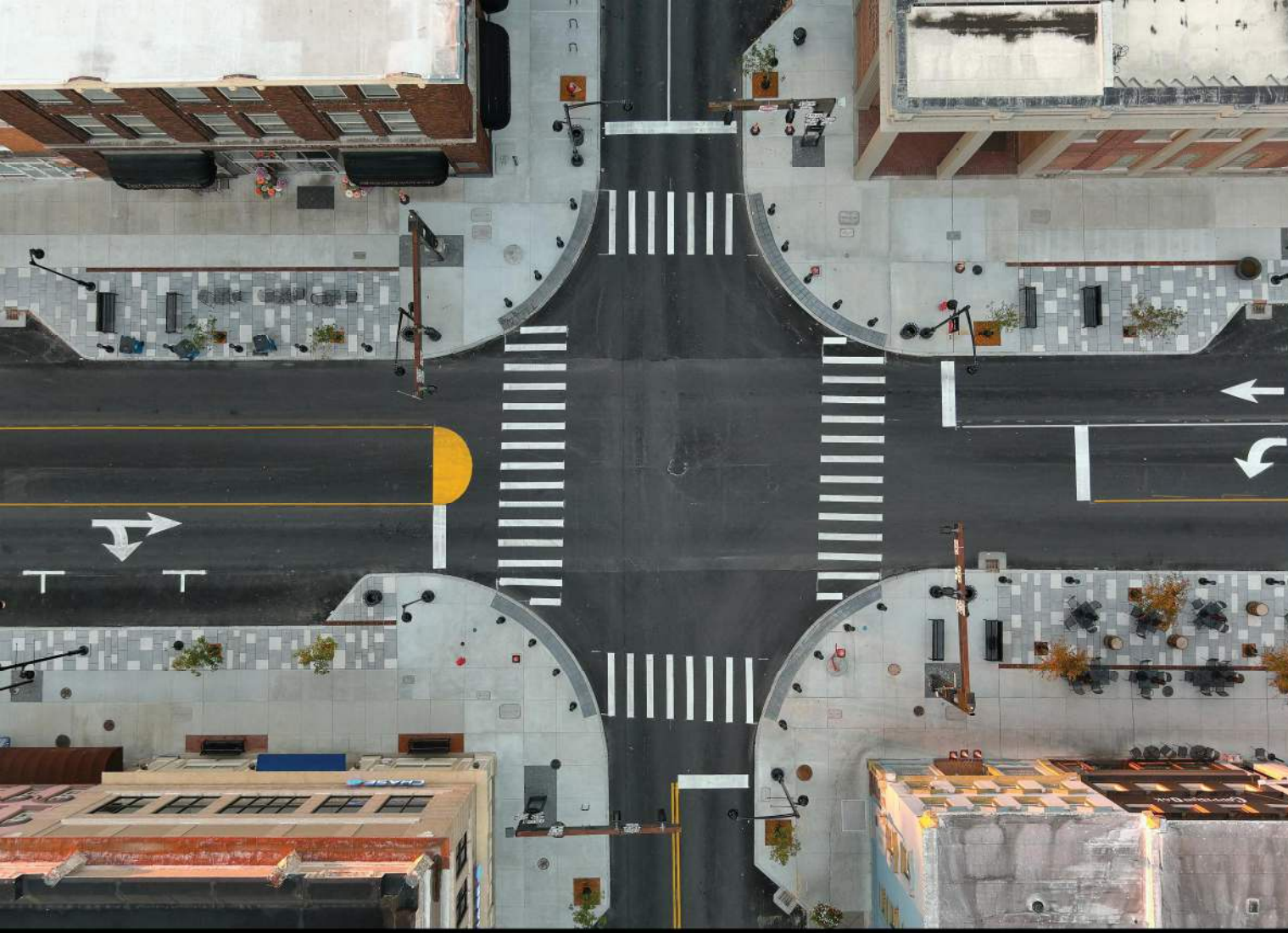


AECOM

ACEC ENGINEERING
EXCELLENCE AWARDS

HNTB





Before

After

▲ The project introduced approximately 21,000 square feet of public pedestrian space downtown, fostering safety, health and well-being.

Downtown Danville Streetscape

City of Danville | Danville, Kentucky
Gresham Smith | Lexington, Kentucky

Project Overview

Proudly known as the “City of Firsts,” Danville, Kentucky, like many small cities, experienced a gradual decline in vitality over time as growth and development shifted toward the metropolitan outskirts. Challenged with the need to make downtown accommodate the modern activities, to reignite the town’s unique vibrancy and to improve safety for all users, the City of Danville embarked on a journey to rally the community around a shared vision for moving downtown forward. Gresham Smith was a key contributor to this vision, which came to fruition in the form of a collaborative, comprehensive master plan aimed at breathing new life into the heart of downtown Danville.

With strong leadership from the city and Centre College, in collaboration with the Kentucky Transportation Cabinet, the master plan led to a full redesign of Main Street. The outcome is a transformed, modern and safe space downtown for both pedestrians and vehicles. It has streamlined the interaction between businesses and foot traffic, creating a welcoming environment for all. The revitalized streetscape has already led to increased foot traffic to downtown businesses, enhancing the city’s attractiveness as a destination and as an example for other small towns across the country.



▲ The project incorporated an expanded pedestrian zone, a streamlined roadway for further vehicular speed control, buried utility lines and newly installed traffic signals and lighting for enhanced safety and bump outs for shorter pedestrian crossing times.



▲ The team focused on pedestrian safety and a vibrant atmosphere, established principles of connecting people, places, and culture, creating user-oriented streets and infilling blocks, lots.



▲ Pedestrian amenities like benches, tables and overhead lighting were added, providing up to 14 feet of amenity space in some areas, along with an extra six feet of sidewalk throughout the corridor.

► The community engagement process paved the way for a strategic vision of downtown development, revealing diverse perspectives and insightful viewpoints.

Overlook Terrace at Orient Heights

Boston, MA



The Overlook Terrace at Orient Heights redevelopment transformed a neglected neighborhood into a vibrant, sustainable community that improves the quality of life for residents.

Overlook Terrace in East Boston – an affordable housing development that serves the community – underwent a comprehensive redevelopment to enhance its livability and sustainability. Originally built in 1951, the neighborhood had deteriorated significantly by 2013, prompting a full-site redesign. Nitsch provided civil engineering, transportation engineering, and land surveying services, including roadway reconstruction, stormwater management, and utility infrastructure improvements.

The 15-acre redevelopment project was challenging due to the site's extreme topography (a 100-foot elevation change broken up by site walls up to 30 feet high) and the need to maintain continuous service to residents during construction.

The project involved the demolition and reconstruction of many buildings, redesign of all roadways, grounding of formerly above-ground utilities, and inspection and repair of the critical retaining walls. Reconstruction and infrastructure improvements were executed in three phases: Waldemar Avenue at the bottom of a steep hill (Phase 1), Vallar Road forming a cul-se-sac in the middle (Phase 2), and Faywood Avenue at the top of the site (Phase 3). The final phase was completed in 2023.

The end result is a modern, functional community with 331 energy-efficient housing units, contemporary roadways that support pedestrian safety, improved green spaces and parks, and a community center. The redevelopment was funded through a combination of public and private sources, including grants from the Massachusetts Department of Housing and Community Development and the City of Boston.



Existing
Development
in 2018



Updated
Development
in 2023

Submitted by:



Boston, Massachusetts

Owner:

Boston Housing Authority
and
Trinity Financial

Boston, Massachusetts



NORTHEAST TRANSMISSION LINE

Houston, Texas

Challenges:

- Addressing the Harris-Galveston Subsidence District's mandate to reduce groundwater usage and prevent subsidence.
- Managing the largest water line project ever undertaken by Houston, requiring development of new innovations.
- Navigating complex conditions, including crossing residential areas, major highways, and environmentally sensitive locations.

Solutions:

- Adjusted alignments and utilized trenchless methods to reduce property impacts and acquisition costs.
- A strategic phased approach to construct "workaround" projects first. Three projects in the middle of the alignment with interconnections into the existing system were placed in service prior to the remaining segments, enhancing system operability and delivering portions early.
- Implemented early coordination with the Owner's real estate professionals to finalize the alignment and utilize trenchless methods to reduce property impacts and acquisition costs.

Client & Location: Houston Public Works, Houston, Texas

Entering Firm: Lockwood, Andrews & Newnam, Inc., Houston, Texas

ACEC ENGINEERING
EXCELLENCE AWARDS



Complexity:

- Completed a 1,150-foot tunnel beneath US-59, managing challenging soil conditions near bridge columns.
- Constructed parallel to an 84-inch water line serving critical facilities like Bush Intercontinental Airport.
- Navigated tight easements and high-traffic corridors with minimal disruption, including 17,000+ LF of tunnels.

Innovation:

- Minimized disruption with trenchless technology in sensitive areas, including the Greens Bayou Wetlands Mitigation Bank.
- Stabilized soils during tunneling with advanced subsurface grouting and EPBM techniques.
- Enhanced oversight with UAV technology for real-time construction monitoring.

Unique Aspects:

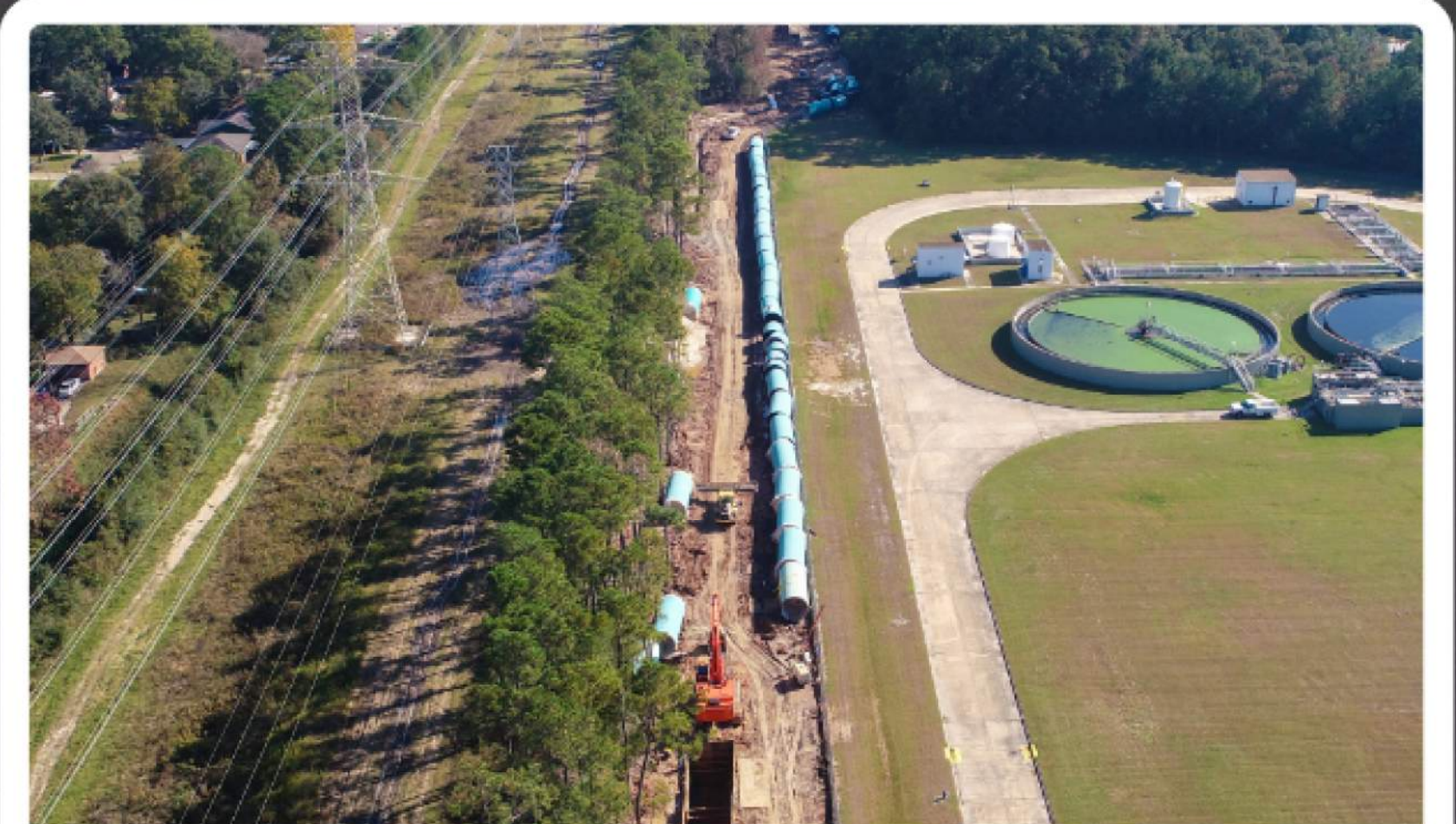
- The largest water line project in Houston's history, spanning 16 miles of mostly 108-inch pipelines, serving 4 million people.
- Partnered with regional water authorities to address the growing population and increasing water demand in the greater Houston area.
- Delivered under budget despite challenges like Hurricane Harvey and Winter Storm Uri.



The NETL extends through rural, commercial, and residential areas in Houston.



The project includes 17,000+ LF of tunnels.



The 16-mile large diameter pipeline is the largest in Houston's history.



The NETL serves 4 million residents in the Greater Houston area.

Dierbergs Crestwood Crossing

Location: Crestwood, Missouri

Firm: SCI Engineering, Inc. | St. Charles, Missouri

Client: Dierbergs Markets, Inc. | Chesterfield, Missouri



This urban redevelopment project **addressed social and economic needs** by adding **housing, retail, a grocery store with a pharmacy, restaurants, and public spaces.** SCI Engineering played a pivotal role in providing environmental services, geotechnical services, and construction materials testing and inspections for this project.

The Dierbergs Crestwood Crossing project showcases SCI's ability to deliver **innovative solutions for complex challenges**, maximize sustainability and safety, and showcased the **critical role that engineers have in shaping communities.**

"Dierbergs was interested in developing a store in this location from the day the mall closed. We believe that the community around this location was deserving of a development that would bring community gathering back into the site."

-Dierbergs Representative

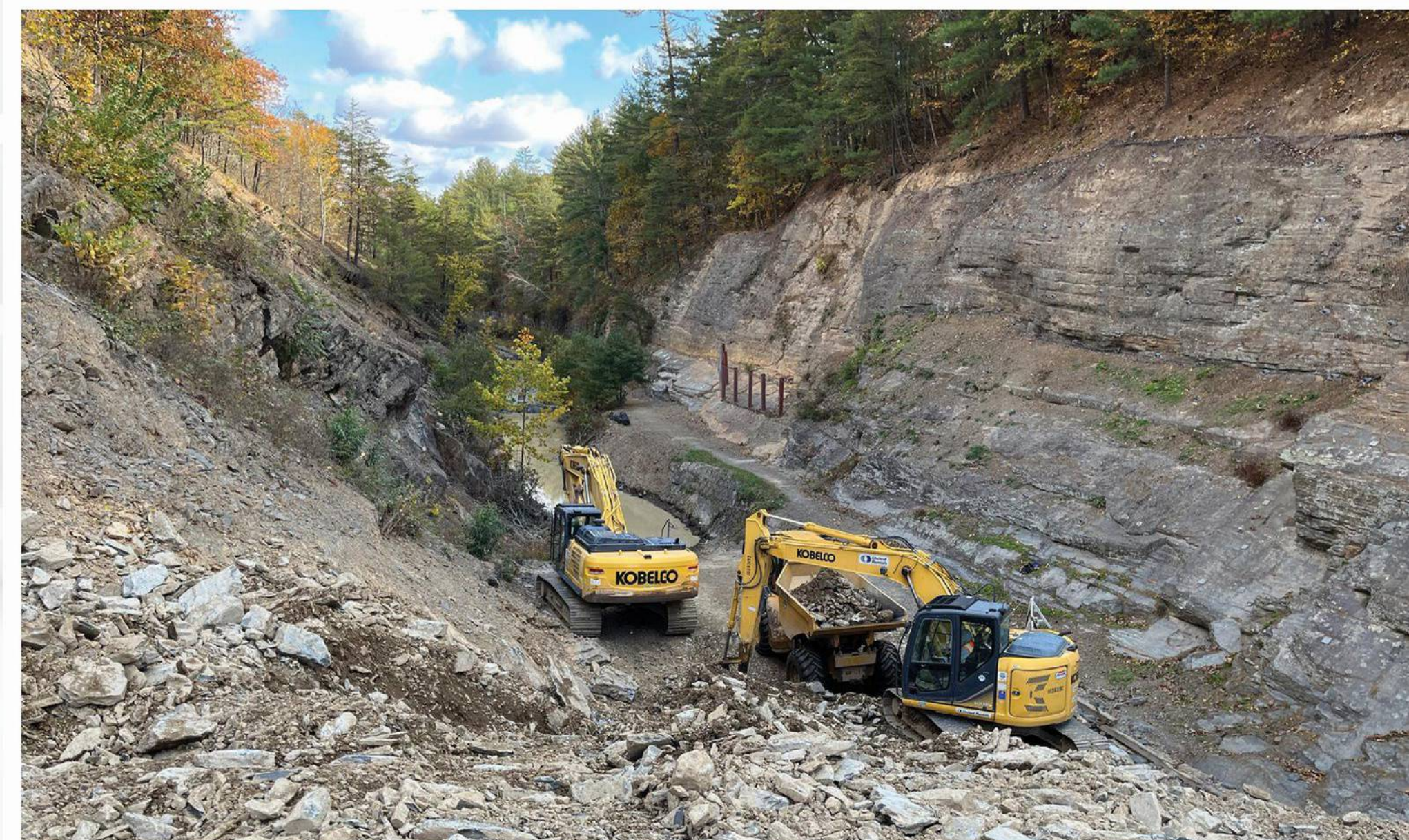


PAW PAW TUNNEL SLOPE STABILIZATION PROJECT

Oldtown, Maryland

The Paw Paw Tunnel Slope Stabilization project is a testament to innovation, sustainability, and precision. By seamlessly integrating safety, sustainability, and historical integrity, innovative construction methods provide a model for future resilience-focused infrastructure projects. The project not only enhances design techniques but also elevates public awareness of how modern engineering can protect and sustain valuable cultural and environmental landmarks.

The technical scope included removing 500 cubic yards of unstable rock and invasive vegetation and installing cement-encapsulated anchors for enhanced durability in weathered rock. To preserve the site's historical aesthetic, hand-sculpted shotcrete with water-based staining was applied along shear block locations, minimizing visual and environmental impacts. Additionally, rockfall protection mesh and reintroducing native vegetation enhanced slope stability, ecological health, and long-term sustainability.





Scorpion Anchorage Pier Replacement

CHANNEL ISLANDS NATIONAL PARK
SANTA CRUZ ISLAND, CALIFORNIA
CATEGORY I: SPECIAL PROJECTS

Client/Owner

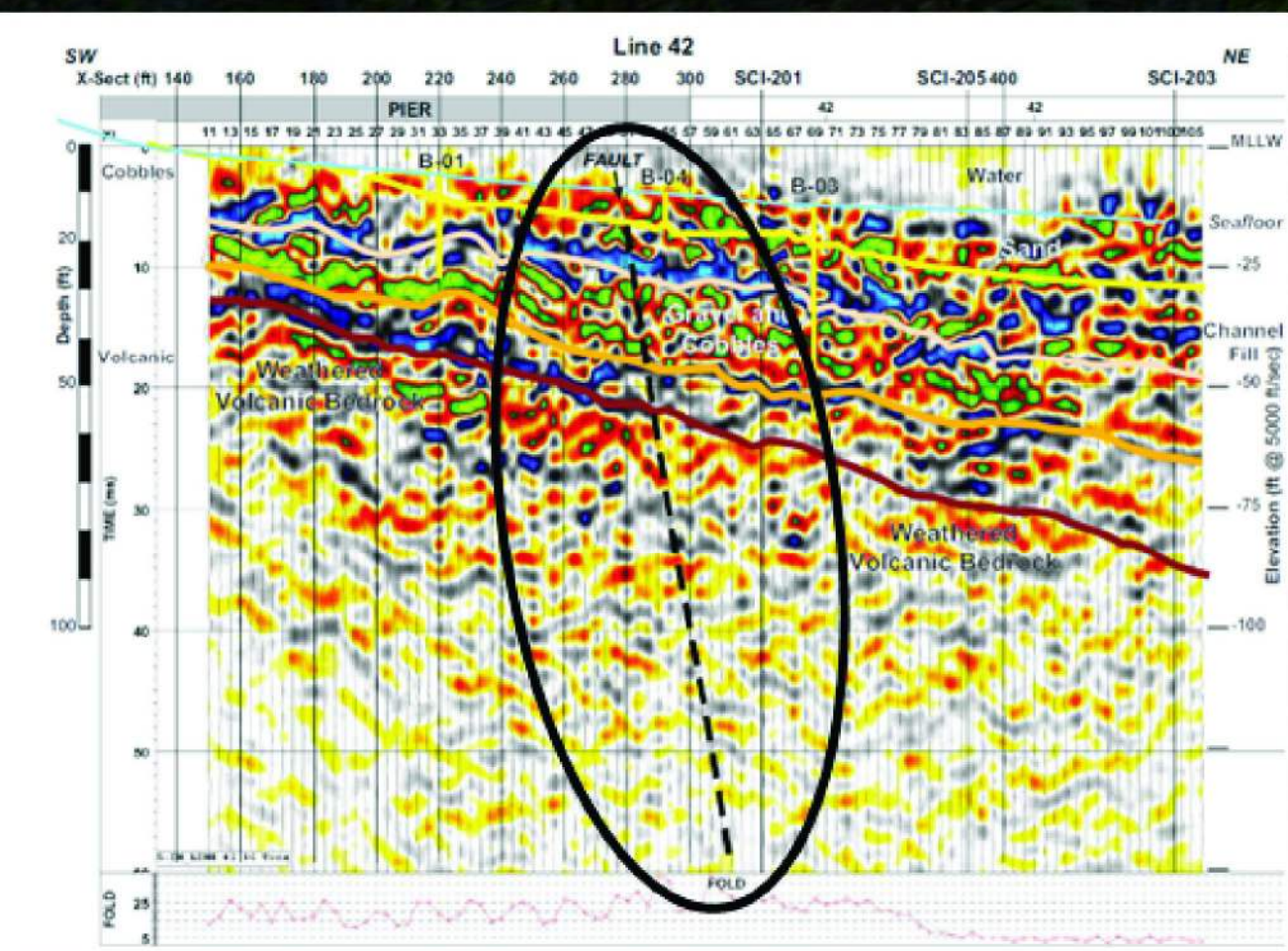
National Park Service
Channel Islands National Park

Firm

Anchor QEA
San Francisco, CA

With precision and ingenuity, this 300-foot-long steel superstructure, timber deck, gangway, and height-adjustable platform safely transfer passengers to Santa Cruz Island, the most visited island at Channel Islands National Park. Built upon a challenging seafloor composition of sand, gravel, cobble, and boulder underlain by hard volcanic bedrock, the ABAS-accessible pier strategically addresses seismic activity and sea level rise. The design improves access, visitor experience, and resiliency, while preserving cultural and environmental landscape characteristics—all to secure the longevity and enjoyment of this important national treasure.

ACEC ENGINEERING
EXCELLENCE AWARDS



Because of the challenging seafloor composition of sand, gravel, cobble, and boulder underlain by fractured volcanic bedrock, a down-the-hole rock hammer drill was used to create holes called sockets for the pier superstructure.

Due to the remote and ecologically sensitive location, 20 miles from mainland Ventura County, all heavy construction equipment was brought in by landing craft barge and inspected per strict biosecurity requirements.

Anchor QEA worked with NPS, cultural resource managers, and Chumash tribal members to not disrupt sensitive cultural areas and minimize impacts to habitats.



UNBONDED CONCRETE OVERLAY PROJECT I-84, COLD SPRINGS IC TO GLENN'S FERRY IC

ELMORE COUNTY, IDAHO

OWNER: Idaho Transportation Department | Boise, ID
CLIENTS: Horrocks Engineers and HDR | Meridian, ID
ENTRANT: Shannon & Wilson | Boise, ID

This is Idaho's first major unbonded concrete overlay project with ITD, HDR and Horrocks Engineers

For the general I-84 mainline, an unbonded overlay was recommended based on lowest life cycle cost and best sustainability of roadway existing materials.



"Of all the strategies considered, this unbonded concrete overlay solution provides the best life cycle cost benefit."

"I-84 is a significant commercial route for Idaho. With this strategy, we anticipate at least 40 years of additional interstate roadway service."

Jeff Ryan, ITD D3, Resident Engineer

DISTRICT DEPARTMENT OF TRANSPORTATION

LANE PLACE PEDESTRIAN BRIDGE EMERGENCY REPLACEMENT

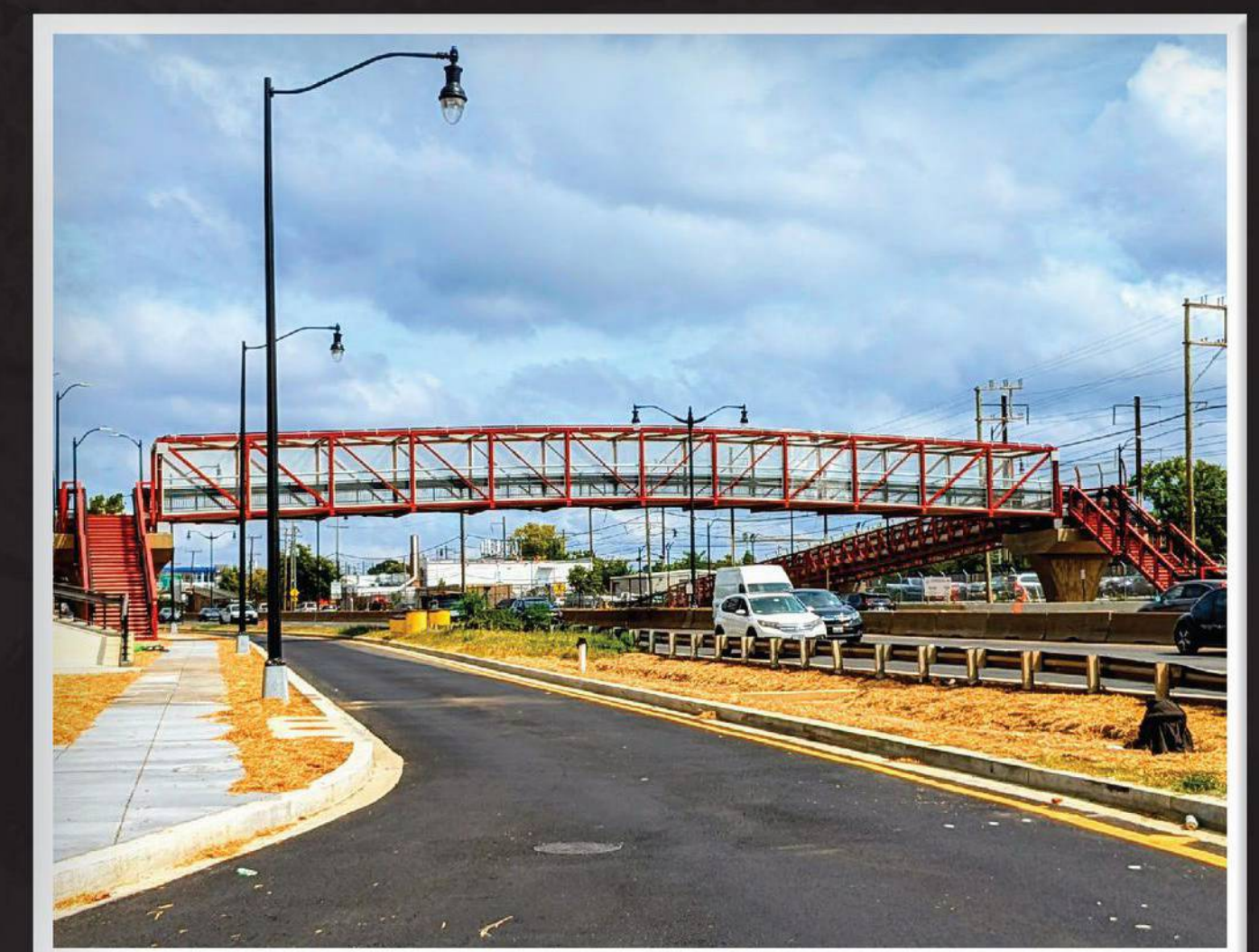
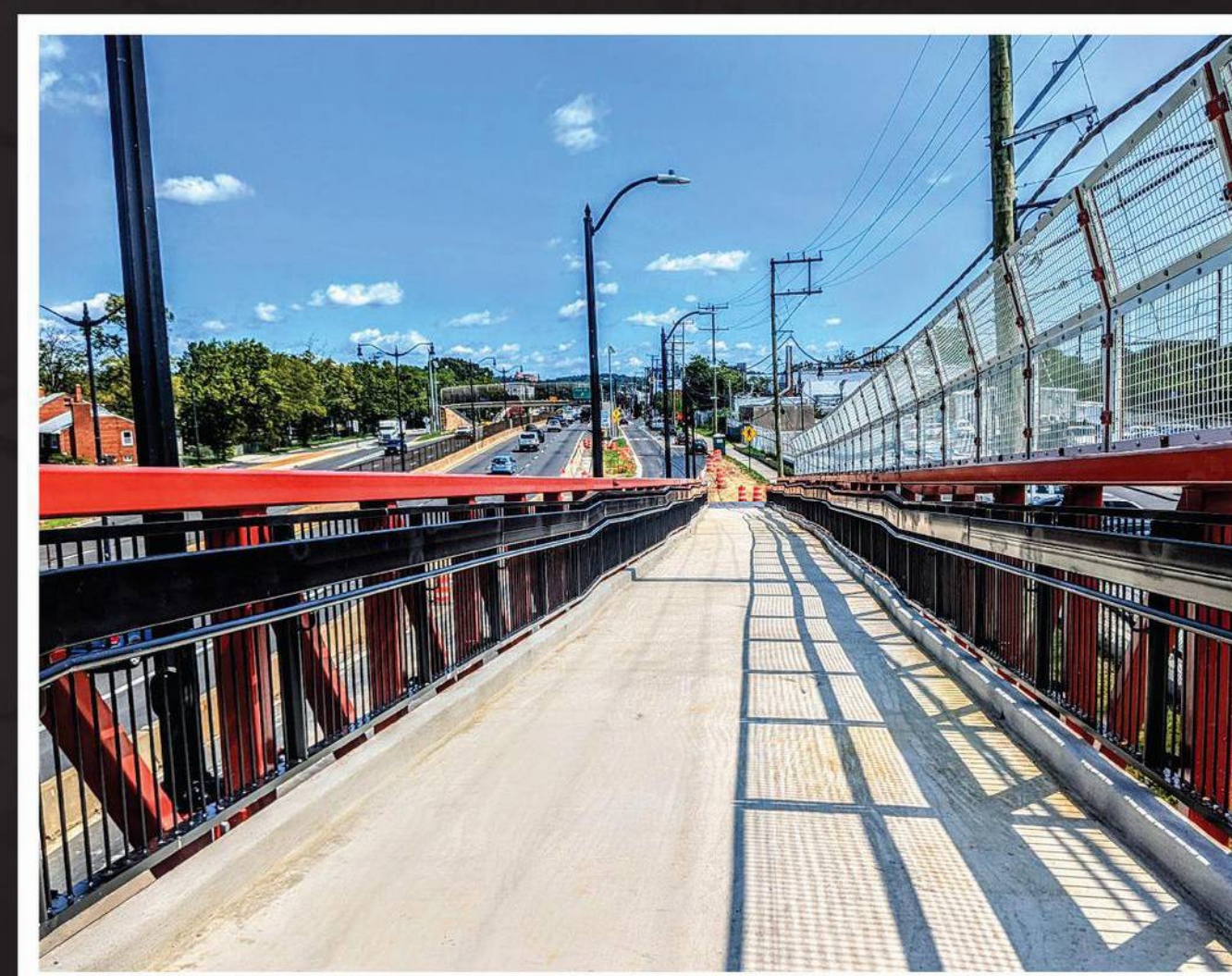
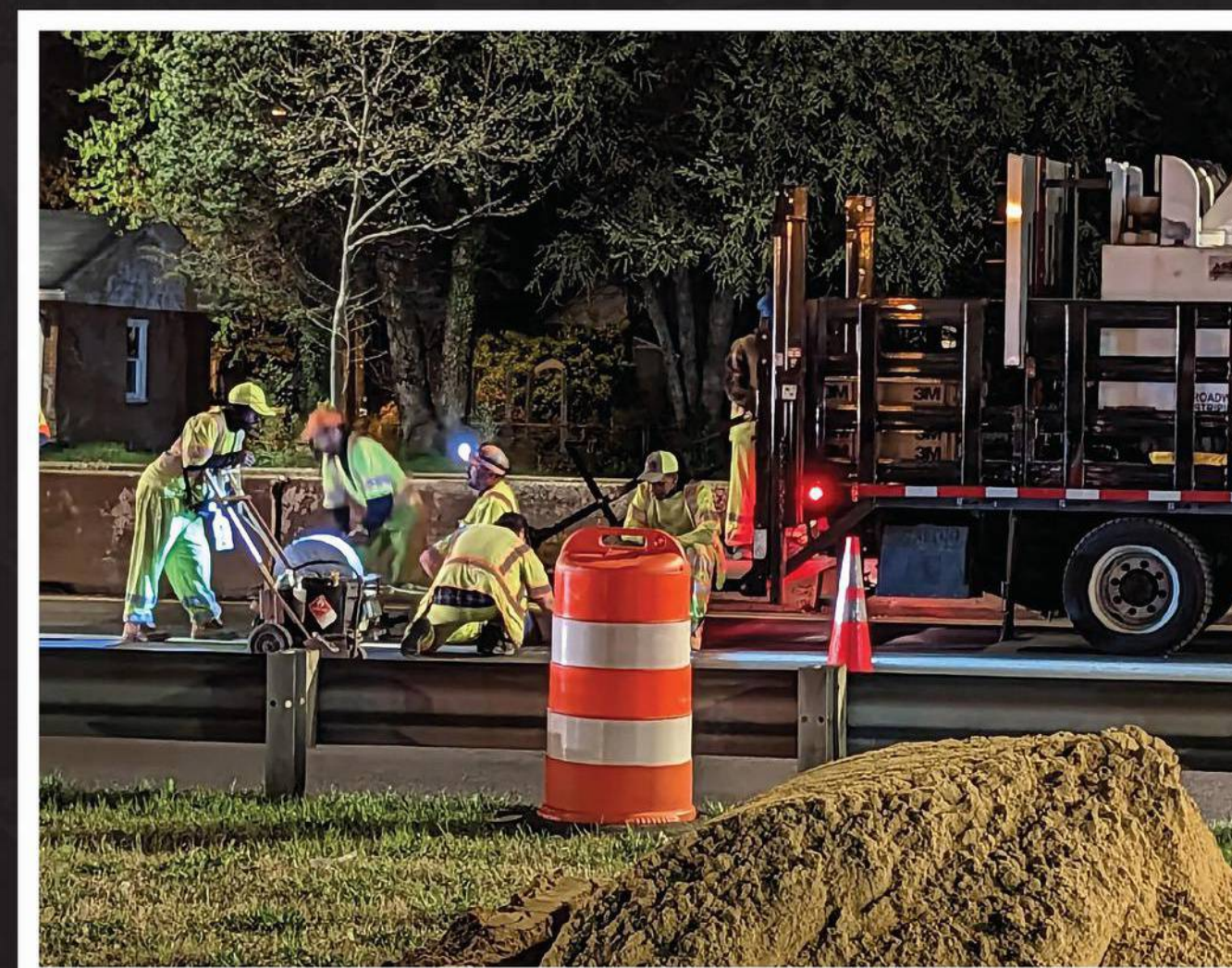
WASHINGTON, DC

Entrant: EBA Engineering, Inc. | Laurel, Maryland

In June 2021, a truck traveling southbound on DC 295 hit the pedestrian bridge crossing over the freeway near Lane Place NE, causing the bridge to collapse. In response, DDOT requested assistance with rapid bridge reconstruction that would optimize the use of local and federal emergency funding.

EBA's construction management and inspection services helped DDOT complete the bridge replacement within the established budget and schedule, in compliance with all design documents and regulatory requirements, and without compromise to safety or quality. EBA's efforts also helped protect DDOT interests, save time and money, enhance communication and coordination, facilitate quality, and reduce risk.

Collectively, EBA's work helped DDOT create a safer and significantly enhanced bridge—for both pedestrians and freeway users—with minimized traffic, noise, and environmental impacts. The new bridge and associated amenities also provide an enhanced quality of life that has resonated strongly with Ward 7 residents, DC 295 users, and the entire DC community.





▲ A photo of the cap repair, column encasement and rip-rap placement.

▲ An aerial image of the completed repair showing vertical abutment wall, utility support for 12-inch diameter watermain and column encasement.

▲ An aerial image of the completed repair showing removal of damaged end span, construction of vertical abutment wall and its close proximity to CSX railroad.

Cheshire Bridge Road Over CSX Emergency Bridge Repair

City of Atlanta Department of Transportation | Atlanta, Georgia
Gresham Smith | Atlanta, Georgia

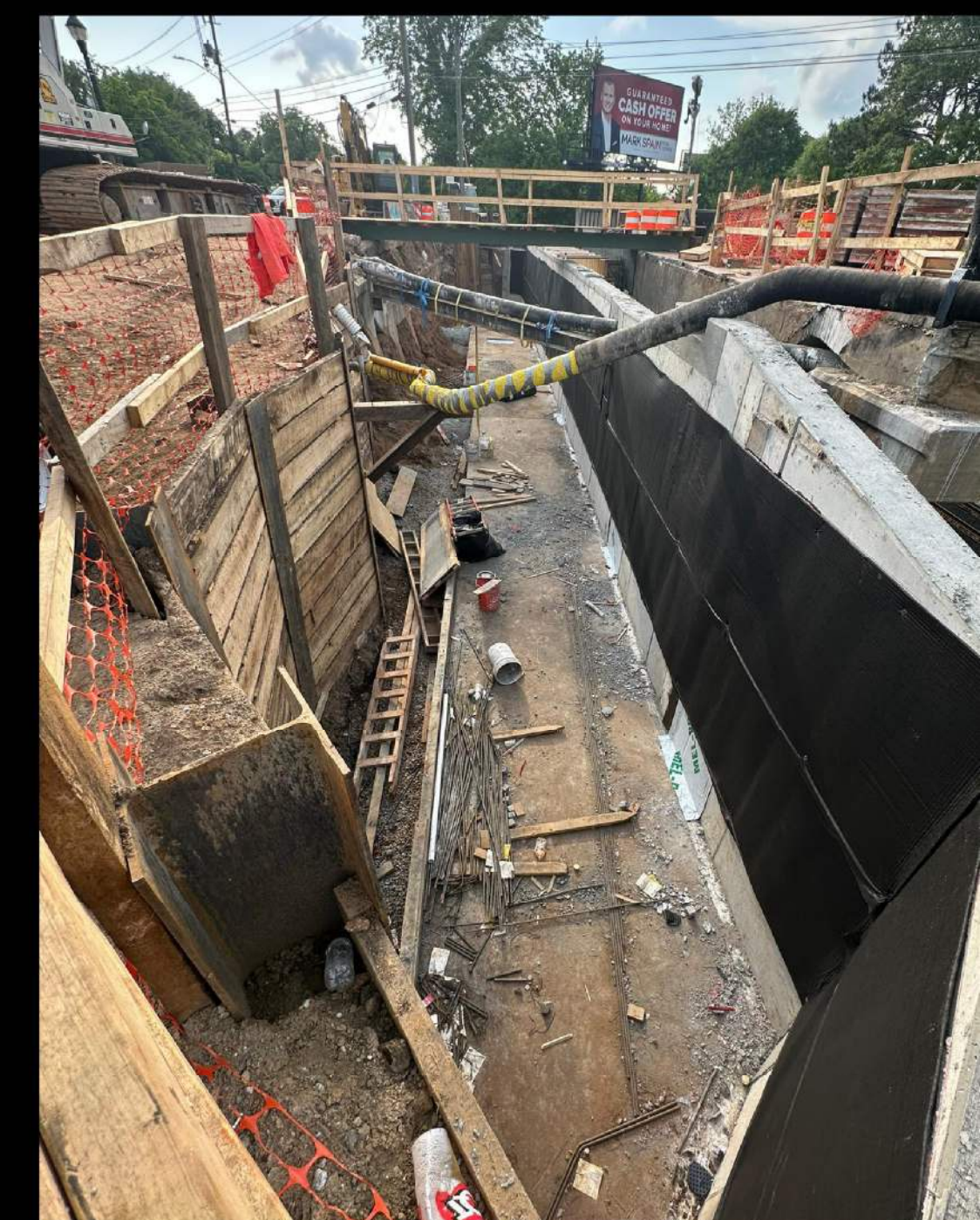
Project Overview

On December 20, 2023, the City of Atlanta’s Department of Transportation (ATLDOT) was forced to close the Cheshire Bridge Road bridge over the CSX railroad after a fire caused extensive damage. This marked the second road closure in two years, significantly disrupting commuters and businesses in the Lindridge-Martin Manor and Morningside-Lenox Park neighborhoods. As a critical corridor in Atlanta’s transportation network, Cheshire Bridge Road’s rapid restoration became an urgent priority.

In response, the City of Atlanta enlisted the Gresham Smith-Platinum Geomatics joint venture team, along with C.W. Matthews, to quickly inspect, design, and repair the bridge. Through innovative design techniques and close coordination with key stakeholders—including CSX, the City of Atlanta, and six utility owners—the team successfully reopened the bridge on May 22, 2024, just five months later.



▲ A photo during construction showing temporary support for 12-inch watermain going through vertical abutment wall.



▲ A photo of the vertical abutment wall constructed behind pier with temporary utility supports for gas main and fiber cable ducts.

▶ A photo behind the vertical abutment wall with footing, prior to fill. Note the temporary support of gas main and fiber cable ducts in background.

Clearpond Road Culvert

CLEARPOND ROAD CULVERT / SHAWNEE, OKLAHOMA

City of Shawnee / Shawnee, OK • Freese and Nichols / Oklahoma City, OK

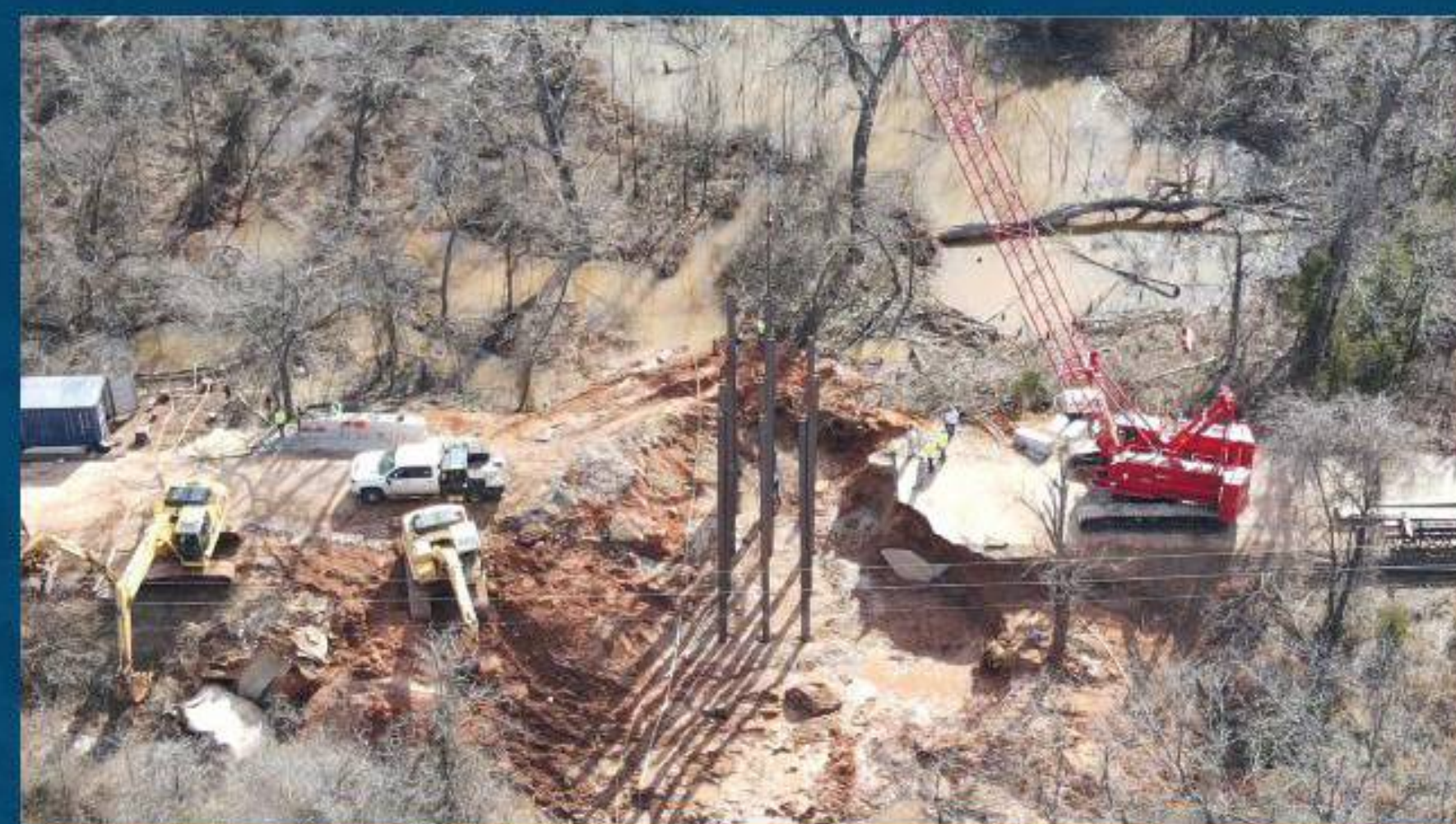


The Clearpond Road Culvert project is a remarkable example of innovative engineering under challenging conditions. Faced with a fixed budget and the urgency of an emergency repair, the team employed deep foundations typically used in bridge construction to stabilize the culvert in weak soil. The hydraulic design minimized impacts on adjacent properties and enhanced the aquatic environment, while significant erosion issues were addressed to improve roadway safety. Completed on an expedited schedule, the project reduced detours for emergency personnel, enhancing community safety and accessibility.

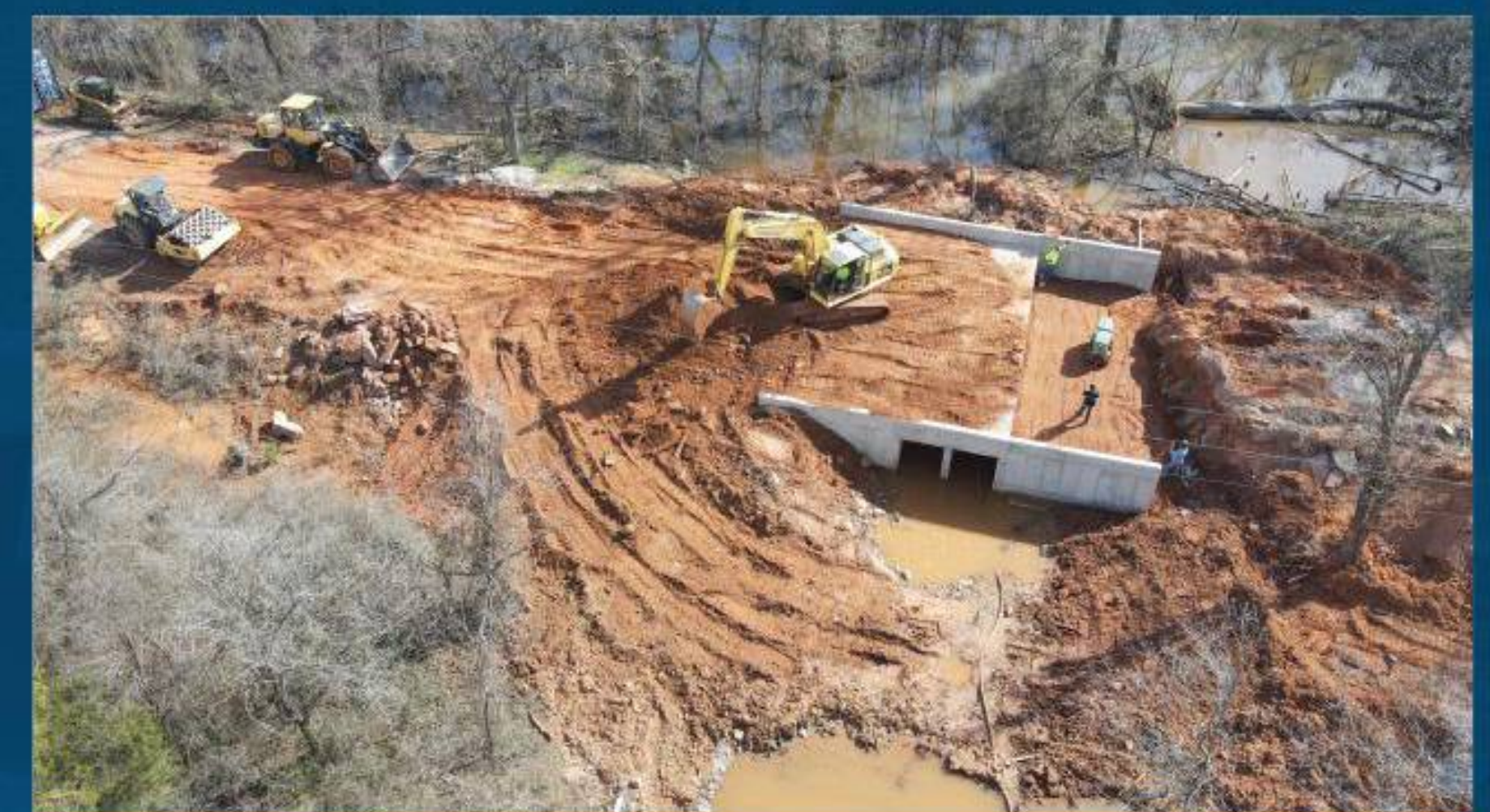
This project highlights the transformative potential of creative engineering, setting new standards for future projects and increasing public awareness of engineering's role in community development. It provided a cost-effective, durable solution that avoided repeated repairs and minimized environmental impact, contributing to a lower environmental footprint. The Clearpond Road Culvert project has improved community safety and accessibility, demonstrating the vital role of engineering in enhancing quality of life.



Overhead view of final post construction of the area including slope stability installation



Installation of fifteen steel piles and the dewatering efforts that were required to construct the new structure in the floodway.



Installation of double-barreled 5-foot by 5-foot reinforced concrete box culvert with parallel headwalls.



Overhead view showing culvert and roadway installation during construction.



Post construction of one of the parallel headwalls showing the improvements to roadway safety and slope stability improvements.

BRICKYARD COVE AT MCLAUGHLIN EASTSHORE STATE PARK

BERKELEY, CA



Brickyard Cove is a 30-acre park located where University Avenue terminated at the historic shoreline in Berkeley, California. The park extends the existing 8.5-mile McLaughlin Eastshore State Park along the San Francisco Bay, on previously discarded shoreline area, once used as a brick and debris landfill. The park repurposes the site with public open space that offers biking and walking trails and views of San Francisco Bay, the Golden Gate and Bay Bridges, and Mount Tamalpais. The park includes parking areas, bike racks, picnic tables, restrooms, water fountains, interpretive signage, and accessible spaces.

BKF served as subconsultant to Adrienne Wong Associates, to provide civil engineering and coordinate with stakeholders and regulatory agencies. BKF employed creative techniques to manage stormwater cost-effectively with minimal impact while meeting accessibility requirements. Asphalt surfacing was necessary to provide access to portions of the site. Traditional piped systems were not an option due to high groundwater levels and proximity of the bay. The team chose shallow infiltration trenches, bioretention areas, and swales to capture and treat stormwater runoff from the paved areas. The team navigated utility and construction challenges, including bringing electricity, sewer, and potable water infrastructure to the remote site. When contractors sited the restroom building foundation at a lower elevation than the plans called for, BKF devised a seat wall with a rock swale to keep stormwater from flooding the structure.

By providing waterfront access and recreational opportunities for the community, including those with limited mobility, the project delivers significant social and environmental benefits.

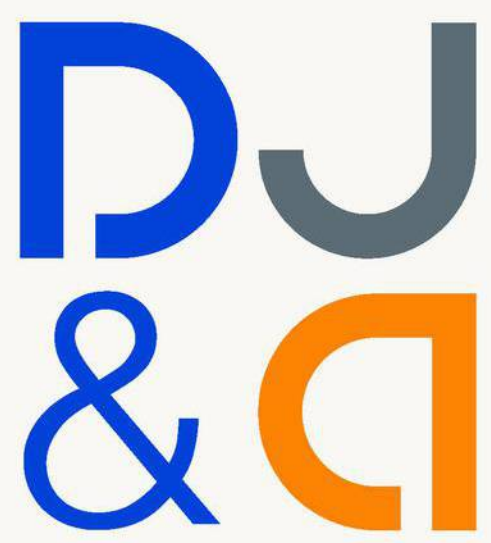


OWNER:
East Bay Regional Park District (Oakland, CA)

CLIENT:
Adrienne Wong Associates (Lafayette, CA)

ENTERING FIRM:
BKF Engineers (Walnut Creek, CA)





2025 ACEC Montana Awards Submittal
Category : Small Projects (Less than \$2.5M)

Montana Museum of Art & Culture Campus Drive / Memorial Row Greenway Improvements

The **Montana Museum of Art and Culture (MMAC)** project, completed in September 2023, transformed the University of Montana campus with a \$2.5 million privately funded development of civil infrastructure improvements. DJ&A led the civil engineering efforts, addressing traffic and pedestrian challenges near the Adams Center and Washington Grizzly Stadium. The project included extending South 6th Street into a multimodal corridor, adding bike lanes, traffic-calming measures, and a visually striking speed table crosswalk.

Sustainability was a key focus, with a new stormwater management system replacing outdated infrastructure. Precast drywell sumps were installed to collect, treat, and infiltrate runoff onsite, reducing environmental impact. Additionally, the project extended the historic Memorial Row Greenway, enhancing campus connectivity and honoring the University's past.



1. Montana Museum of Art & Culture along Campus Drive, new multimodal corridor to the left of MMAC with parking and drives to the south.
2. Montana Museum of Art & Culture Entrance. View facing North of the new entry plaza under construction.

PennDOT's **FIRST** Digitally Delivered Bridge Project

Submitted by: Pennoni
Wyoming Valley, PA



ACEC ENGINEERING
EXCELLENCE AWARDS

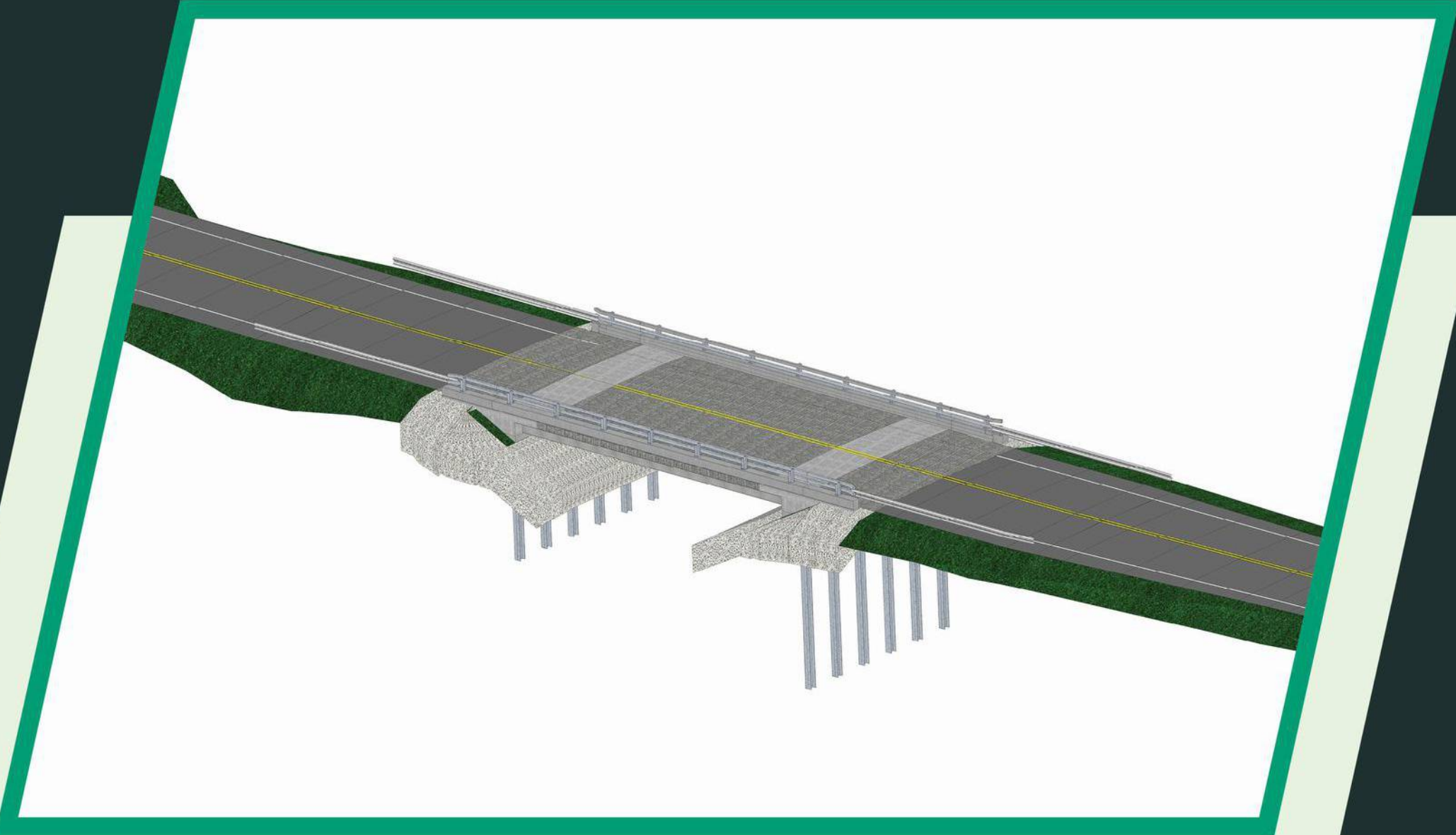
Milwaukee Road over Gardener Creek Newton Township, Lackawanna County, PA

Pennoni's Milwaukee Road over Gardener Creek (SR 3006 Section 250) project was selected by PennDOT District 4-0 as the first Bridge Authoring Digital Delivery Pilot Project under the Digital Delivery 2025 initiative.

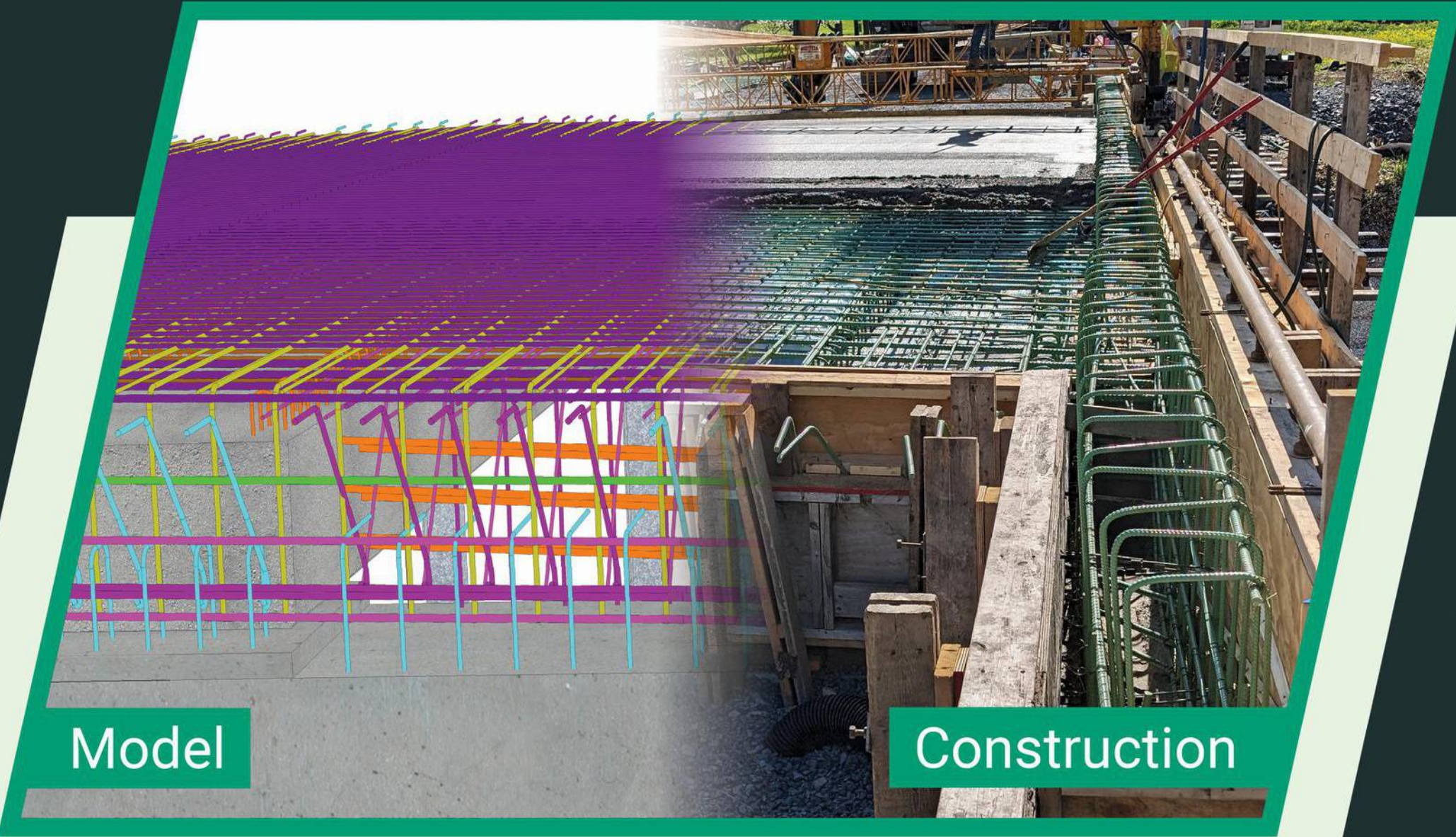


Bridge Authoring Digital Delivery Pilot Project

- ✓ Digital model replaced traditional structure plans
- ✓ Deliverable included 3D views, attributes, and annotated views
- ✓ Modeling standards and procedures developed concurrently with design
- ✓ Model training and guidance provided throughout construction for the contractor and PennDOT inspectors



Model Based Design



Constructed From Model



Completed Project

Client/Owner:
PennDOT District 4-0
Dunmore, PA



Big Sky Tram Power Line

Big Sky, Montana

A popular wintertime destination for alpine skiers, Big Sky Resort offers more than 5,800 acres of snowy, mountainous terrain. Lone Peak is the resort's highest point, with a suspended tram accessing its 11,166-foot summit. As part of reimagining the mountaintop experience, Big Sky Resort replaced a 27-year-old tram with the new Lone Peak Tram.

To service the new tram and replace an insufficient power line, HDR's team designed and helped install a new power system that also allows summit expansion. More complex because of the rough terrain and steep elevation, the only access is by helicopter or foot. The installation covered 2,200 feet in length and a 1,300-foot elevation gain.

A custom solution balanced installation and power demand at the summit. To run continuous cable that was light enough for the helicopter to place, the team selected three separate armored power cables, which protected them from external factors above ground while keeping each under the helicopter's lifting capacity. For installation, a Chinook helicopter unspooled the cables, pulling them to the top of the mountain while workers attached them to temporary anchors at the top. With all three in place, teams attached them manually to customized micropile anchors every 200 feet along the mountain's face. At each end, the cables enter splice vaults and are routed underground to transformers and switches.

Delivered on schedule and on budget, the tram opened for the 2023-24 skiing season and runs during both winter and summer, offering panoramic views of the surrounding mountain scenery.



Project: Big Sky Tram Power Line | Big Sky, Montana

Client: Big Sky Resort | Big Sky, Montana

Entrant: HDR | Bozeman, Montana

ACEC ENGINEERING
EXCELLENCE AWARDS





Abbott Northwestern Central Utility Plant

At a prominent corner of the Allina Health Abbott Northwestern Campus in downtown Minneapolis, the state-of-the-art central utility plant (CUP) symbolizes innovation and efficiency. It replaces an existing CUP unable to meet the campus's future growth needs.

Providing essential utilities, the 3-story, 70,000-square-foot CUP maintains seamless operations for the entire healthcare campus. Designed with future growth in mind, it supports the campus's expanding capacity to serve more patients and future facilities and replaces four outdated plants from the 1950s.

More than just a utility hub, the CUP enhances both the surrounding neighborhood and healthcare campus with its modern materials and thoughtful landscaping in addition to providing cleaner, more efficient, and more reliable power. Using a combined heat and power system, it generates electricity and heat simultaneously via a combustion

turbine generator and heat recovery generator, providing essential utilities — steam, chilled water and electricity — to more than 1.8 million square feet of critical hospital space.

Constructed adjacent to sensitive areas like surgical suites, the project demanded precise coordination to avoid disrupting hospital operations and the surrounding community. It is also sustainable, conserving 560,000 gallons of water annually by using harvested rainwater in its cooling towers. Meanwhile, its energy-saving systems, like variable-speed drives, cut 9,900 metric tons of carbon dioxide emissions annually.

Blending form and function, it serves as an attractive, harmonious addition to the community. The CUP represents a substantial leap forward in healthcare infrastructure, combining advanced technology, sustainability, and energy efficiency.

Title: Abbott Northwestern Central Utility Plant | Minneapolis, MN

Client/Owner: Allina Health | Minneapolis, MN

Entrant: HDR | St. Louis Park, MN



Reliable Power for a more Resilient Future

West Point Power Quality Improvement Project

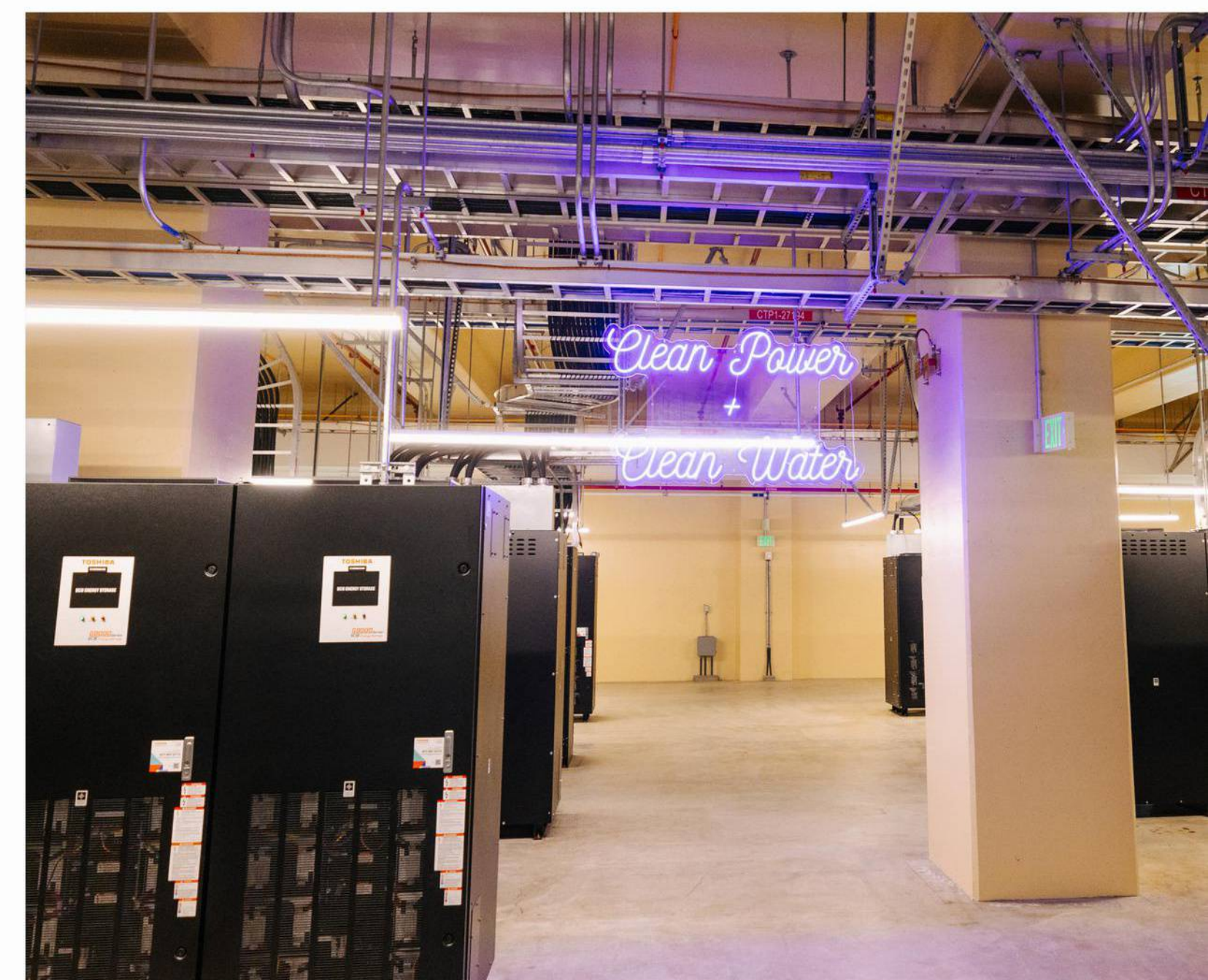
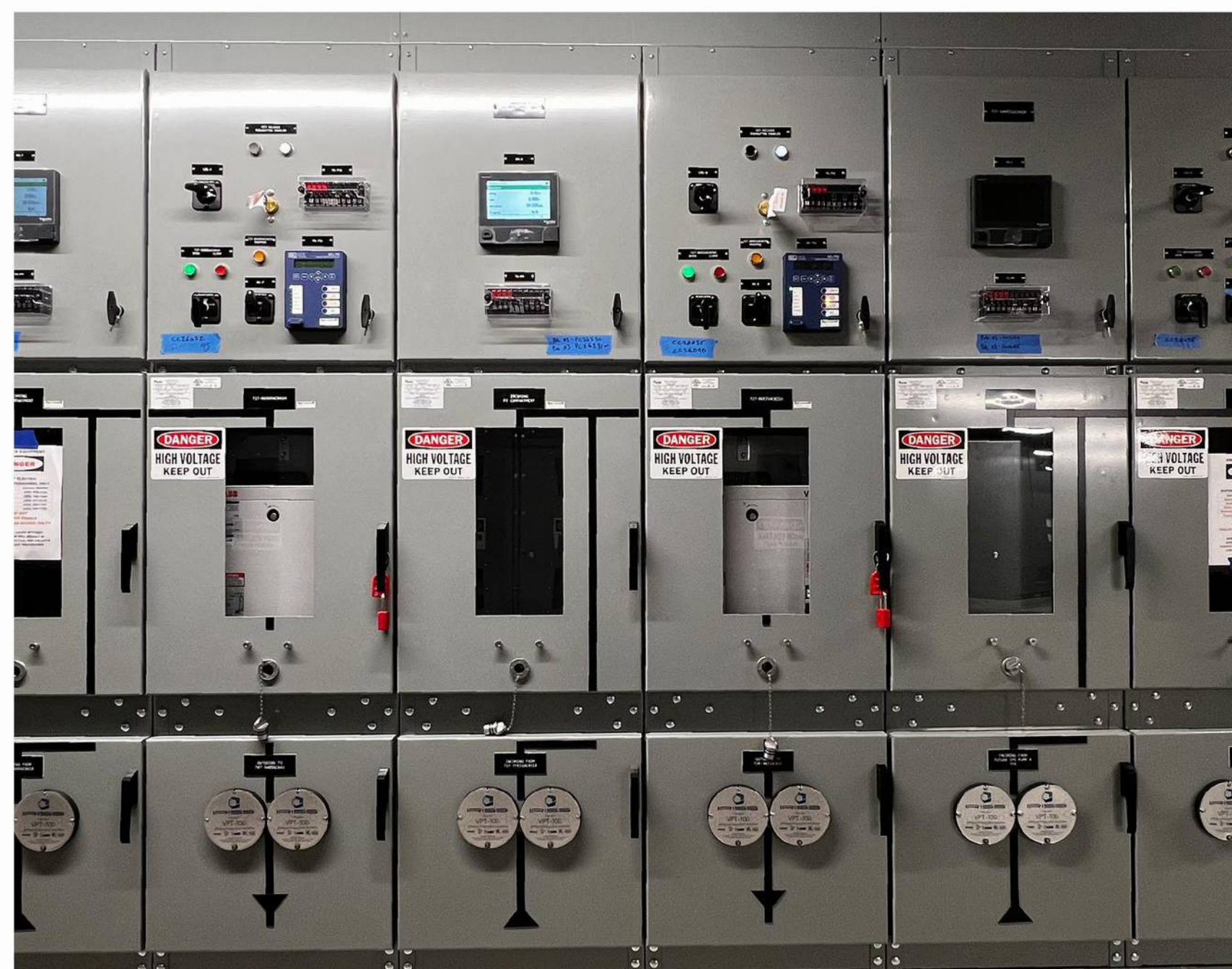


Located in King County, Washington, the West Point Treatment Plant is the largest wastewater treatment plant in the region, treating up to 440 million gallons per day. In 2021, an emergency declaration was signed to improve the facility's resiliency against power disruptions caused by severe weather.

To provide more consistent, stable power throughout severe weather conditions, King County collaborated with Brown and Caldwell and teaming partners to design and install a unique 16.8-megawatt battery system consisting of 48,000 battery cells into the electrical system to keep the facility's pumps operational during inclement weather events. The West Point project represents the largest application of uninterruptible power supply batteries at a wastewater treatment plant in the United States, providing an industry framework for large-scale usage.

To house battery equipment, the team constructed a 24,000 square-foot, 2-story building that spans an underground influent tunnel and emergency bypass channel. The structure holds nearly a million pounds of equipment, including step-up and step-down transformers, medium and low voltage switchgear, 14 1200 kVA UPS systems with over 48,000 battery cells, and an HVAC system to remove over 1 MMBtu/hr of heat generated by the electrical equipment.

This project was successfully implemented within 3.5 years including design, construction, and startup; approximately 3 times faster than a design of this scale for a public agency. The West Point project continues to pave the way for large-scale battery usage in the wastewater industry, providing reliable power to reduce emergency bypasses of untreated wastewater to Puget Sound.



Brown AND Caldwell

King County

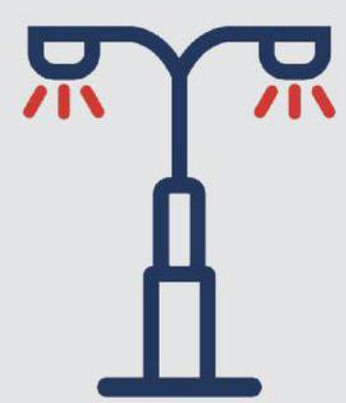
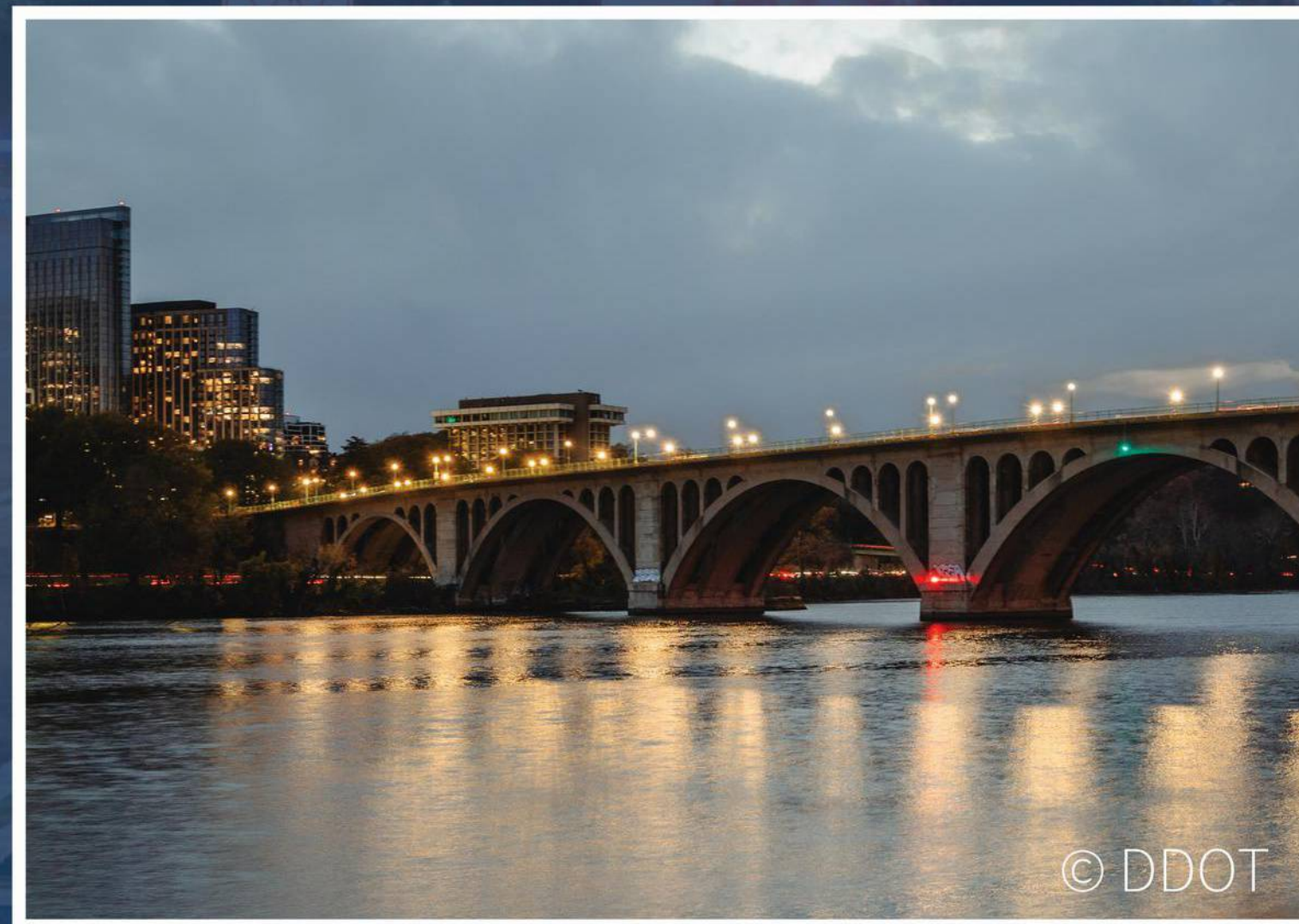
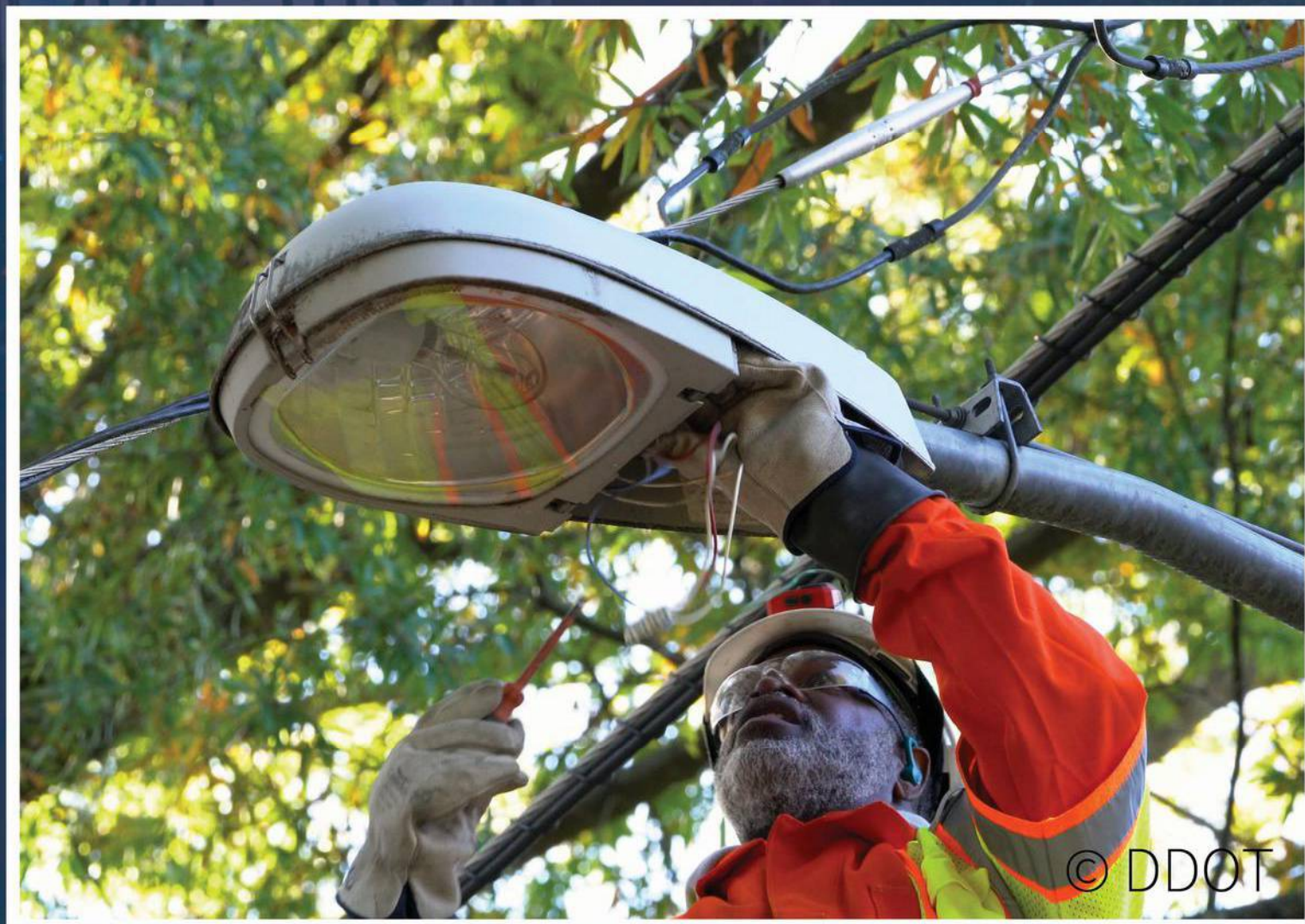
ACEC
AMERICAN COUNCIL OF ENGINEERING COMPANIES

DC Smart Street Lighting Project

WASHINGTON, DC

The District Department of Transportation (DDOT) embarked on a historic opportunity to modernize more than 75,000 streetlights to smart, more efficient LED technology, controlled remotely from a central operations center. As one of the largest urban streetlight modernization projects in the country at \$309 million, DDOT engaged in the District's first Public Private Partnership. Highlights include:

- » Reduction in energy consumption by more than 70% and elimination of 38,000 tons of greenhouse gas emissions annually
- » Equitable response times across the District to outages
- » Improved safety on roadways and walkways through more uniform lighting patterns
- » Ensures the lights are maintained and repaired in a timely manner
- » Reduced response time to outages



Modern
Remote Monitoring



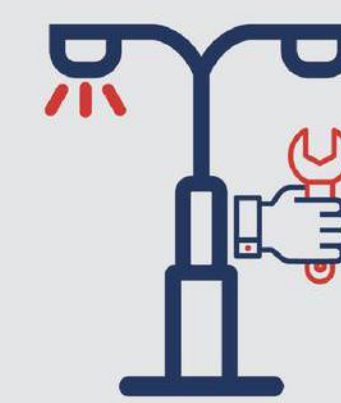
Reduced
GHG Emissions



Lower
Energy Usage



Reduced
Light Pollution



Expedited
Outage Detection



Enhanced
Safety

CLIENT: DDOT | Washington, DC | **ENTERING FIRM:** VHB | Washington, DC

PROJECT PARTNERS: DDOT; Plenary Americas; Phoenix Infrastructure Group; Kiewit Development Company; ENGIE North America; EQUANS; Indigo Mid-Atlantic; TB&A; Dynamic Concepts Inc.; Fort Myer Construction; VHB



ENGINEERING
EXCELLENCE AWARDS

Enhancing Reliability

The University of Washington Power Plant Upgrade

Client University of Washington, Seattle, Washington
Engineer Stanley Consultants | Denver, Colorado

The University of Washington's aging steam turbine could no longer be trusted to provide uninterrupted power during outages.

The solution was to demolish the turbine and install a Diesel Rotary Uninterruptible Power Supply (DRUPS) for backup power. Unheard of in a university setting, DRUPS are often used by data centers to provide uninterrupted power. Essentially a spinning flywheel, the DRUPS keeps the plant operational through short outages or, during longer outages, jumpstarts a diesel engine to keep the plant running. The result – absolutely no interruption in service.

The University of Washington is thought to be the only US campus to employ a DRUPS.

For years, the plant operated with two different steam systems - 425 psig superheated and 185 psig saturated. Removing the steam turbine

and eliminating superheated steam made it possible to reduce the boiler pressure to 185 psig saturated steam. This reduced fuel consumption by over 10% and reduced carbon emissions.

Locating an accessible site that could bear the load of the 10-ton DRUPS required a reinforced foundation that was reverse engineered. Retrofitting the old boiler from superheated to saturated steam required internal boiler modifications including removing the superheated tubes. Also, decades-old switchgear and relays were modified to synchronize with the new system. The feasibility study considered and rejected many options. "DRUPS was by far the most economical solution," said Mark Kirschenbaum, Assistant Director of Campus Utilities. "It provided the operational reliability we had been seeking." The project was completed on schedule and on budget.



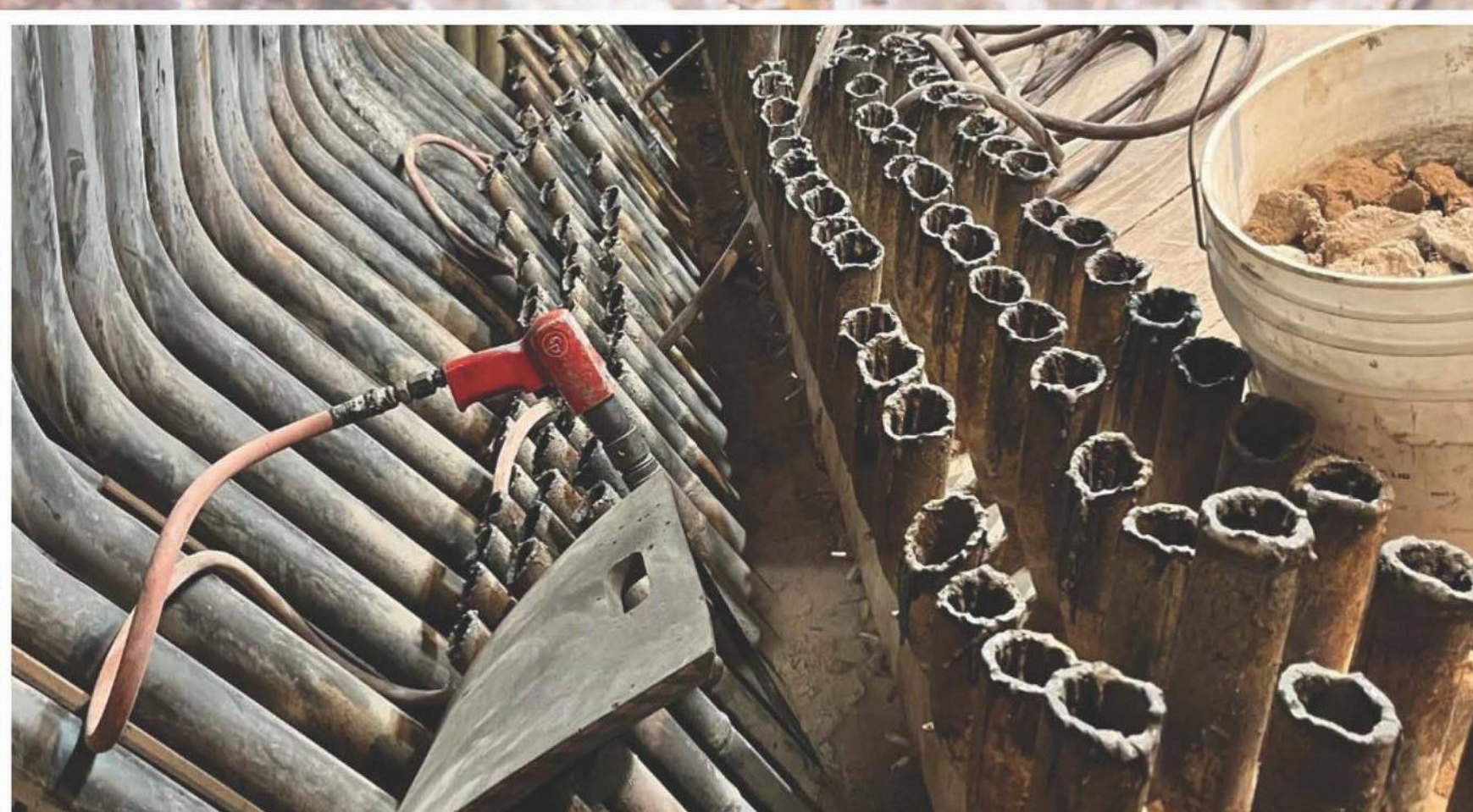
The University of Washington is thought to be the only US campus to employ a Diesel Rotary Uninterruptible Power Supply (DRUPS).



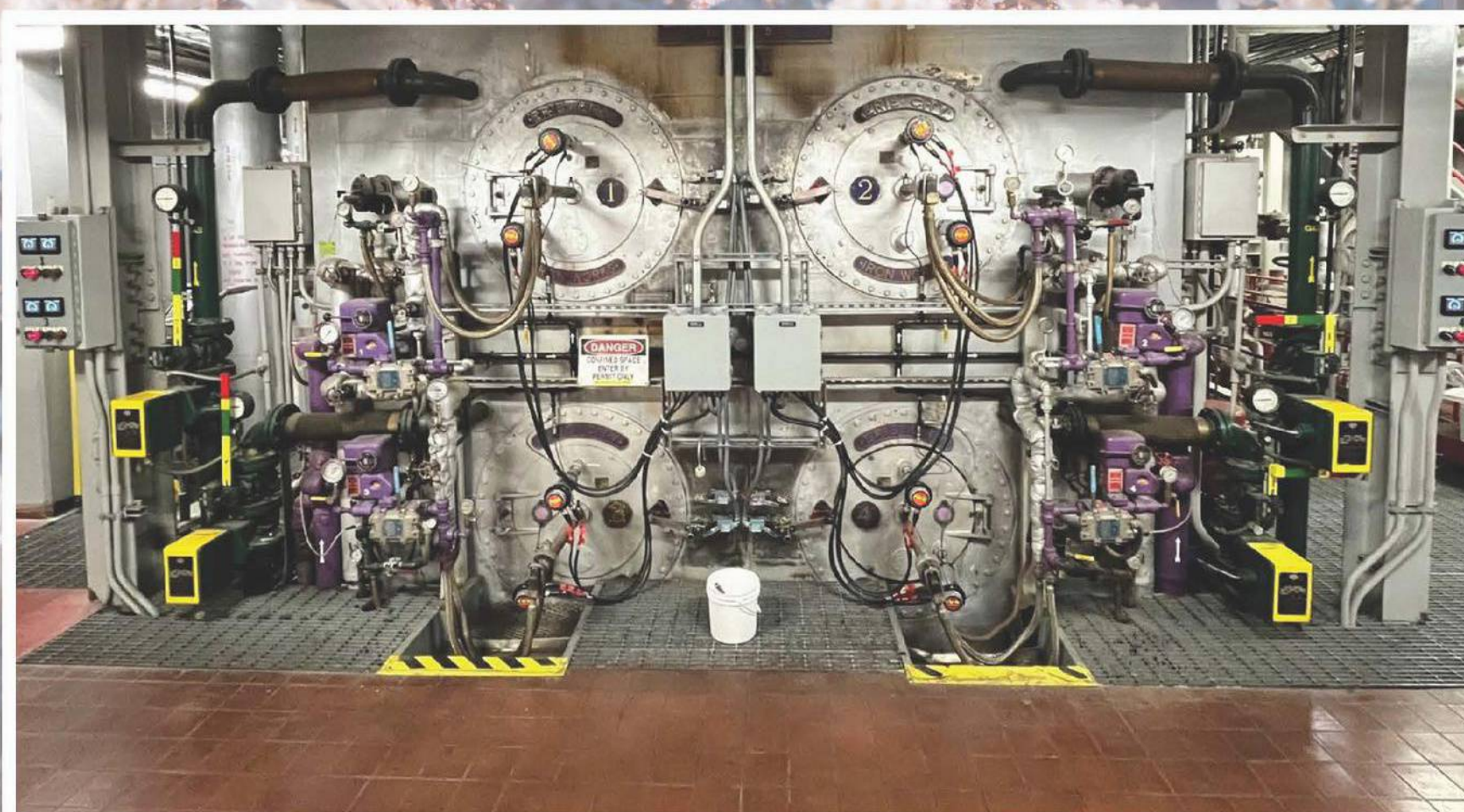
The DRUPS keeps the plant operational through short outages or, during longer outages, jumpstarts a diesel engine to keep the plant running.



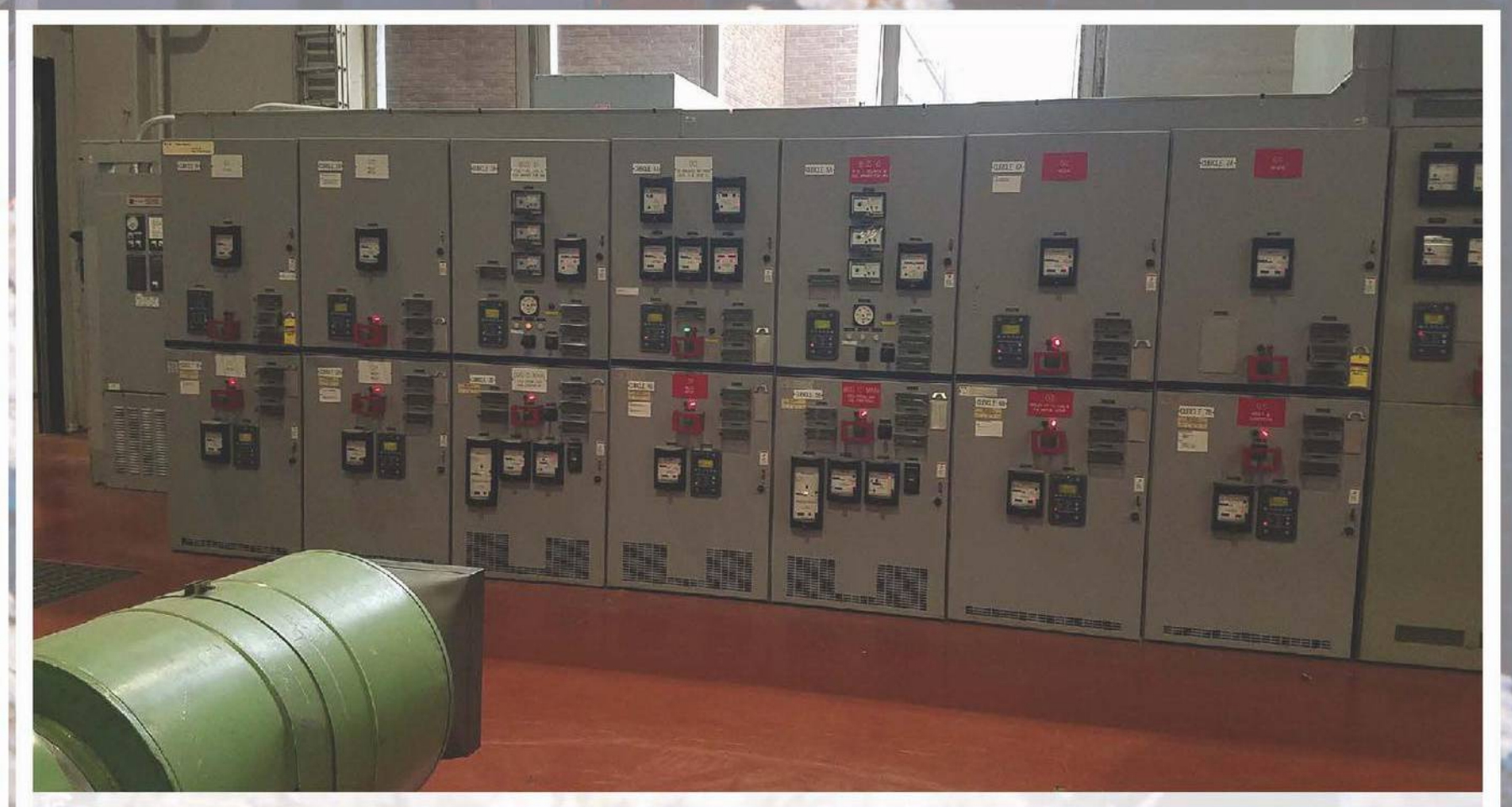
Demolition of the existing steam turbine generator.



Removing superheater tubes to de-rate the boiler to a lower boiler pressure.



Modified boiler returned to service.



Decades old switchgear required extensive modifications to accommodate the new plant configuration.

Ultium Cells Spring Hill Battery Manufacturing Plant

Ultium Cells | Spring Hill, TN
Gresham Smith | Nashville, TN

Project Overview

Ultium Cells, an LG Energy Solution and General Motors joint venture, doubled its U.S. battery production with a second facility in Spring Hill, Tennessee, that opened earlier this year. Designed and commissioned by Gresham Smith, the project was completed through an innovative Integrated Project Delivery method. The new facility uses an efficient battery cell manufacturing process to double production, supplying battery cells to GM's nearby assembly plant for Ultium-powered vehicles. This facility contributes to GM's vision for a zero-emissions, all-electric future.

Project Stats

- **Size:** 2.8-million-square-foot facility
- **Opened:** Summer of 2024
- **Investment:** \$2.3 billion
- **Jobs:** 1,700 new high-tech jobs
- **Annual Capacity:** 50 gigawatt hours

“The project is our second electric vehicle battery manufacturing plant to come online, which effectively doubles our capacity and ability to produce our advanced battery cells for our electric vehicle lineup.”

—Alonso De Avila, Jr., Senior Project Manager,
Sustainable Workplaces, General Motors



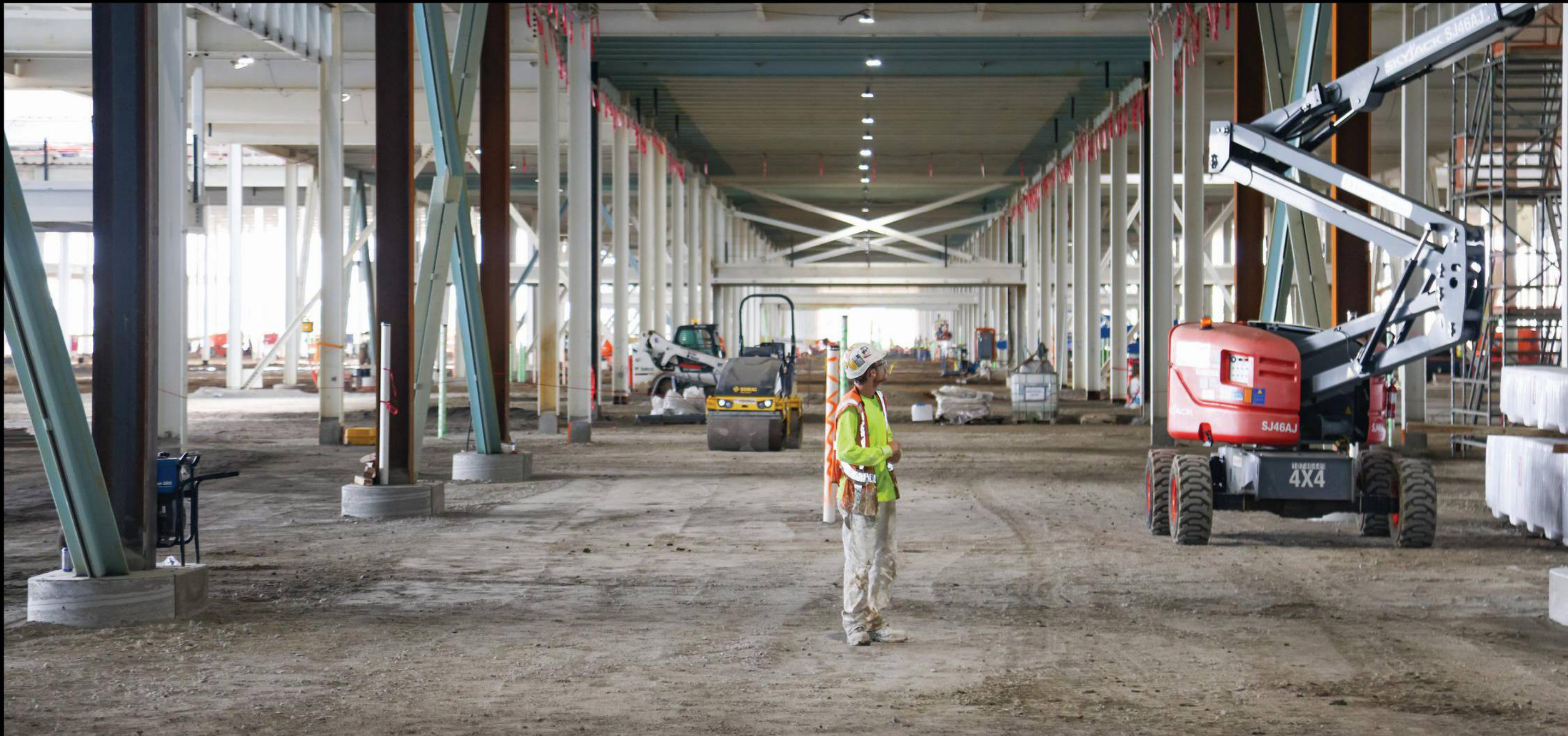
▲ An aerial image of the completed facility in April 2024.



▲ The entrance of the new facility in April 2024.



► An image of the completed facility in April 2024.



▲ A look at the inside of the facility during construction in June 2022.



▲ Team members from Gresham Smith and Ultium Cells at the project's topping-out ceremony in June 2022.



► The project under construction in May 2022.

Lunar Production and Operations Center

INTUITIVE MACHINES LOBBY



Houston, Texas

Intuitive Machines, a diversified space exploration, infrastructure and services company, selected Burns & McDonnell to provide design-build services for its 105,572-square-foot Lunar Production and Operations Center that officially opened in September 2023.

Intuitive Machines recently became the first American commercial company to land a spacecraft on the moon in 2024. Its lunar program was the first to transmit engineering and science payload data for NASA from the lunar surface since Apollo 17 in 1972. The company is one of three anchor tenants at the Houston Spaceport.

Burns & McDonnell partnered with Intuitive Machines to provide the program room needed for personnel from multiple previous sites to build, command and communicate with lunar vehicles and other technology in space. The first-of-its-kind concept incorporates state-of-the-art features that elevate operational efficiency and seamlessly integrated workspaces, production laboratories and testing facilities, establishing an environment to foster collaboration and accelerate research and development processes.

LUNAR OPERATIONS & PRODUCTION FACILITY



VIEW OF THE FLAME RANGE



MULTI-FUNCTIONAL LOUNGE



THE LUNA CAFÉ



CONCRETE WALLS AND FLAME RANGE



Client & Location: Intuitive Machines | Houston, Texas
Entering Firm: Burns & McDonnell



Hyundai Motor Group Metaplant America (HMGMA)

Terracon Consultants, Inc.

LOCATION:

Ellabell, Bryan County, Georgia

CLIENT/OWNER:

Hyundai Engineering America

CLIENT/ OWNER LOCATION:

Irvine, CA

ENTERING FIRM:

Terracon Consultants, Inc

ENTERING FIRM LOCATION:

Savannah, GA



ACEC ENGINEERING EXCELLENCE AWARDS

HMGMA is Georgia's largest industrial development project and the only U.S. plant that mass-produces electric vehicles and batteries. Terracon provided geotechnical services for the design and testing services during construction and was the only U.S. firm involved in the design and construction of all buildings at the campus. The project occupies a 3,000-plus acre site, involving 11 million cubic yards of earth moving during grading and requiring 25,000+ piles to support the 14 buildings. The buildings cover 19 million square feet, triple the size of The Pentagon.

Terracon's collaborative approach and innovative engineering solutions saved millions in construction costs and months of project schedules. The team developed a highly efficient construction process with Hyundai, structural engineers, and foundation contractors, meeting the project's tight schedule and stringent performance criteria. Innovative methods, including seismic design and soil liquefaction analysis, and the use of hybrid rigid inclusion columns, set new standards for future engineering projects.

Additionally, Terracon contributed to the project's success by consulting with the design and construction teams and the Savannah and Bryan County Development Authorities while providing construction materials testing and special inspections services on all constructed elements. These elements included soils, foundations, concrete, masonry, waterproofing, fire stops, structural steel, decking, roofing, epoxy floors, and mechanical and electrical components, ensuring efficient service delivery in a fast-paced construction environment.

Construction of the plant is mainly complete, and production began in October 2024. To date, Hyundai Motor Group and its suppliers have announced \$10 billion in capital investment and 15,446 new jobs.