

SUPERSTRUCTURE

Anchoring Chicago's Newest Entertainment District

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Photo by: Brian Fritz

Building **Enduring** Relationships and **Thriving** Communities

RELATIONSHIPS MATTER. They are the cornerstone of our business. They are the reason for our sustained success. Over the years, we have been honored to work with some of the best of the best in the real estate industry to build extraordinary structures from coast to coast. These partnerships have yielded award-winning museums, world-class hospitals, bustling airports, premier event centers, skyscraping office towers, and more—projects that shape and strengthen our communities. These buildings fill us with tremendous pride, but more than the physical structures, it is the relationships with our clients—born out of these projects—that are most meaningful to us.

This year, Clark is celebrating 25 years of building in Chicago. This accomplishment has been achieved in large part on the valued relationships we have cultivated with many local clients during that time. These relationships didn't happen overnight, or by accident. They are the result of our team's proven performance, promises kept, creative problem-solving, and of their tireless commitment to providing the best value and end-product for our clients.

A prime example is our relationship

with the Metropolitan Pier and Exposition Authority (MPEA), which began in 1992 on the McCormick Place South Hall Expansion. In the 25 years since, Clark has worked hand-in-hand with MPEA to transform McCormick Place into the nation's largest convention destination in North America. In this edition of Superstructure, we highlight our most recent work with MPEA: the newly-completed Marriott Marquis hotel and Wintrust Arena. Both facilities opened this fall and are transforming Chicago's McCormick Square community into a thriving, 24/7 convention and entertainment destination for visitors and residents alike. We are honored to play a role in that transformation.

Repeat business isn't something we take for granted; it's something we strive for. Providing an exceptional experience—one that makes our clients turn to us for their next project—is our goal for every job. As we look to the next 25 years in Chicago, and across the country, we know that the real measure of our success is not just the buildings we construct, but the lasting relationships we build with our clients, and the impact we can have, together, in our cities and in our communities. ■

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For more information, to be added to the mailing list, or to update your mailing address, contact Meg Brogan, meg.brogan@clarkconstruction.com



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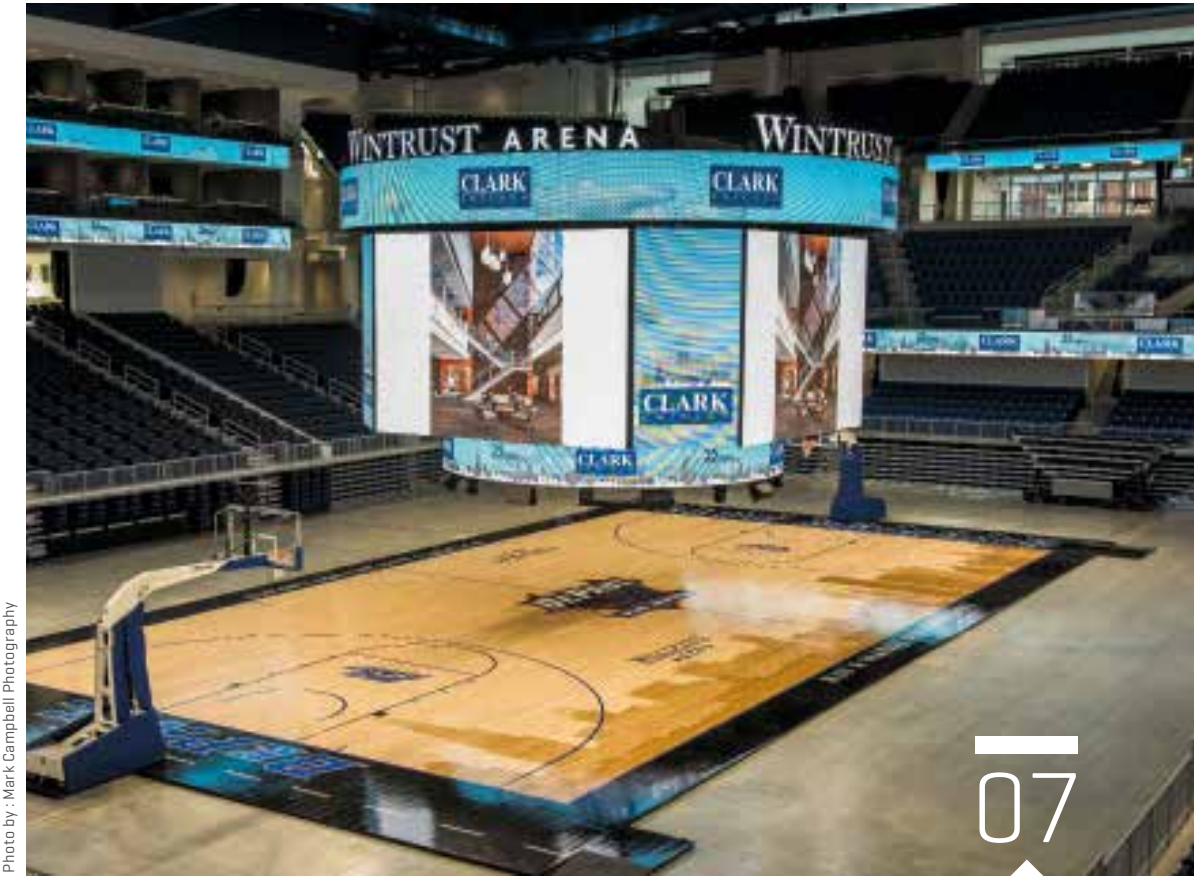


Photo by: Mark Dampbell Photography

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Marriott Marquis Chicago and Wintrust Arena at McCormick Square

These latest additions add a new dimension to the neighborhood, and are taking the Metropolitan Pier and Exposition Authority one step closer to achieving their vision of a thriving, 24/7 destination for conventioners and Chicagoans alike.



Photo by: Chris Paulis

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Building for the Next Generation

Connectedness, online and offline, is defining higher education construction.

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The combined \$500 million Marriott Marquis Chicago and Wintrust Arena at McCormick Square are the latest projects Clark has delivered for MPEA.

Photo by: Brian Fritz

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City of Baltimore Selects Clark-led Joint Venture for Back River Wastewater Treatment Plant

The City of Baltimore's Department of Public Works has selected Clark Construction and joint venture partner Ulliman Schutte to update the Back River Wastewater Treatment Plant and improve wastewater quality for both the city of Baltimore and the larger Chesapeake Bay area.

The \$430 million Headworks and Wet Weather Equalization Facilities Improvements project will increase the plant's influent capacity to 469 million gallons per day. Clark's Civil division and Ulliman Schutte will work with project engineers JMT and HDR to improve screening facilities, pumping stations, and the grit removal process.

The facility improvements also will prevent backups and overflows in the event of a major storm by addressing run-off and hydraulic restrictions where large quantities of precipitation during storm events can inundate the wastewater system. As part of the scope of work, the project team will construct two above-grade tanks to provide 36 million gallons of storage for wet weather.

The joint venture team provided over a year of preconstruction services to develop alternative technical concepts to enable the facility to meet stricter water quality requirements. As the Construction Manager at Risk, the team



Photo by: Dominique Muñoz

is maximizing value to Baltimore through subcontractor competition and comprehensive planning and coordination with plant staff to maintain plant operations throughout construction.

Clark Foundations and Clark Concrete also are part of the project team and will perform support-of-excavation and cast-in-place

concrete work, respectively. Construction for the Headworks and Wet Weather Equalization Facilities Improvements is underway; completion is scheduled for October 2021. ■

concrete work, respectively.

Construction for the Headworks and Wet Weather Equalization Facilities Improvements is underway; completion is scheduled for October 2021. ■



Rendering courtesy of Skidmore, Owings & Merrill

New Contracts

Across the country, and in a variety of markets, Clark Construction Group, and our subsidiaries, have recently been selected to deliver a number of new projects. This quarter, our new work includes:

EDUCATION

Academic Building Replacement at University of California, Hastings College of the Law

Construction of a 58,000 square-foot state-of-the-art academic building

Location: San Francisco, CA

Company: Clark Construction Group

Client: State of California

Architect: Skidmore, Owings & Merrill

Contract: \$50 million

Delivery Method: Design-Build

Completion: Fall 2019

HEALTHCARE

Suburban Hospital Campus Enhancement Phase 2

Construction of a 300,000 square-foot addition to Suburban Hospital, as well as renovations to the existing facility

Location: Bethesda, MD

Company: Clark Construction Group

Client: Johns Hopkins Health System

Architect: Wilmot Sanz

Contract Amount: \$109 million

Completion: Summer 2019

Dwight and Martha Schar Cancer Institute Building A Addition Technology Systems

Installation of voice and data infrastructure, as well as electronic security, audiovisual, and nurse call systems

Location: Falls Church, VA

Company: S2N Technology Group

Client: Inova Health System

Architect: Wilmot Sanz

Completion: Summer 2019

TRANSIT

WMATA Electrician Labor Services

5-year contract for various electrical services for WMATA facilities throughout Washington, DC, Maryland, and Virginia

Location: Washington, DC metro area

Company: C3M Power Systems

Client: Washington Metropolitan Area Transit Authority [WMATA]

Contract Amount: \$57 million

Completion: Fall 2022

Sound Transit Operations and Maintenance Facility: East

Installation of traction power substation, overhead contact system, train control, and monitoring systems for Sound Transit's light rail facility

Location: Bellevue, WA

Company: C3M Power Systems

Client: Sound Transit and Hensel Phelps

Contract: \$28 million

Completion: Fall 2020

Santa Clarita I-5 Pavement Rehabilitation

Replacement of 16 miles of concrete pavement with precast panels and rapid-set concrete

Location: Santa Clarita, CA

Company: Atkinson Construction

Client: California Department of Transportation

Engineer: Caltrans

Contract Amount: \$127 million

Completion: Spring 2019



Rendering courtesy of Wilmot Sanz

GOVERNMENT

FBI Central Records Complex

Design and construction of a 207,000 square-foot facility with secure office space, screening center, and automated records storage and retrieval system

Location: Winchester, VA

Company: Clark Construction Group

Client: General Services Administration

Architect: HGA

Delivery Method: Design-Build

Completion: Spring 2020

COMMERCIAL

1101 16th Street

Renovation and repositioning of two existing office buildings into one 149,000 square-foot Class A office building

Location: Washington, DC

Company: Clark Construction Group

Client: Akridge

Architect: HOK

Contract Amount: \$26 million

Completion: Fall 2018



Rendering courtesy of HOK



Ryan Nam prototyped an interactive dashboard to visually communicate punch list status and turnover productivity rates.

Photo by: Dominique Muñoz

Turnover Vision: The Future of Project Closeout

The future of building turnover management is here, and it is an innovative project management application that is visual, intuitive, and always up to date. Conceived by Clark employees and developed by our Research and Development (R&D) group, “Turnover Vision” is an interactive punch list dashboard that provides an immediate analysis of unit turnover status. The first platform of its kind in the construction industry, Turnover Vision reduces project closeout timelines and improves the client experience through increased trust and transparency.

The driving force behind Turnover Vision is Clark team member Ryan Nam. While working on a multi-family residential project, Ryan came up with the idea of an interactive dashboard to leverage Clark’s industry-leading practices by merging big data with visual analytics. After his initial prototype showed promise, Ryan moved full-time to Clark’s R&D group to work on the application. Now a Research & Development Manager, Ryan continues to work on the platform by implementing its short-term deployment to 15 Clark projects nation-wide and expanding the application’s long-term potential.

Turnover Vision analyzes big data from the

project punch list and organizes it into interactive heat maps and graphs. Utilizing simplified architectural floor plans as the common communication platform, the dashboard provides a clear breakdown of real-time punch list status and turnover productivity rates. This Clark-developed solution enables our employees to spend more time communicating with clients and trade partners, completing punch list items, and turning over units, rather than managing documents and printing reports.

Prior to Turnover Vision, a project team could spend more than 15 hours each week documenting punch list items, manually updating PDF versions of turnover maps, and meeting to discuss turnover rates. That administrative burden has now been eliminated by giving all team members, from Clark’s engineers to senior vice presidents, the ability to open the app on their phone or tablet and understand the current state of the project and drill down to actionable items with 100% accuracy.

When asked about the impact of the new application, Ryan stated, “Turnover Vision is a prime example of Clark’s culture of innovation. We encourage employees to identify a problem, and empower them to implement a solution. The result not only provides our clients value,

but it also improves our employees’ experience.” By facilitating better communication, the software helps Clark’s teams deliver the final product to our clients sooner.

By facilitating better communication, Turnover Vision helps our teams deliver the final product to our clients sooner.

Turnover Vision debuted at the recently-completed Central Place residential tower in Arlington, VA, and has since expanded to Clark’s residential and mixed-use projects across the country. Our team is now piloting the second phase of Turnover Vision at the Museum of the Bible in Washington, DC. From there, Ryan and our Research & Development team are well-positioned to expand the critical tool into other key markets, including office and healthcare sectors. ■

Striving for Continuous Improvement

An Interview with Seth Randall, Clark’s Safety Professional of the Year



Photo by: Dominique Muñoz

Seth Randall played a critical role in the company’s recent adoption of KASK helmets (worn here) that exceed industry safety standards and provide our workforce with increased safety and comfort.

employees now wear one! Being first to the market meant that we had a big responsibility to continue evolving the product to make it the best for our people and the industry. A year after adoption, we continue to help refine and perfect the design of the helmets.

How did you feel when you were named Clark’s Safety Professional of the Year?

Seth: Being recognized for the work that I am so passionate about was very humbling. It reminded me that what I do on a daily basis influences and affects individuals in our workforce, as well as our company as a whole. To me, that is something special. The deep relationships I’ve developed throughout Clark are the reason why I come to work each morning. Knowing that I have an amazing team, and that our senior leadership is engaged and willing to drive change in our industry simply because it is the right thing to do—that lets me know I am working for the right company!

How do you help strengthen Clark’s culture of safety?

Seth: At Clark, the strong partnership between operations and safety personnel is integral to our safety culture. Safety considerations are taken into account from day one of preconstruction. By developing plans for staffing, sequencing, and scheduling with safety in mind, we are able to deliver projects for our clients on time and on budget, and in the safest possible manner.

This integrated approach is built on strong relationships—from executive management to front-line craftworkers. You must engage your colleagues, respect them as professionals, and ensure they remain safe above all else. ■

Clark Concrete Division Safety Director Seth Randall knows that being a leader in safety means continuously evaluating the way we build and challenging the status quo to identify better means of keeping our people safe. Seth played an instrumental role in the company’s recent adoption of KASK helmets, and was recently selected as Clark’s Safety Professional of the Year.

Why are you so passionate about safety?

Seth: My passion for keeping people safe stems from being a child of blue-collar parents who sometimes worked in treacherous conditions. I want to ensure that everyone in the construction industry has a safe work environment like the one we provide at Clark.

When you work in safety it is inevitable that you will be faced with the unfortunate circumstance of someone sustaining an injury. Once you see the dangers of our industry, your commitment to the mission is taken to a new level. We must provide all workers on site with the tools, processes, and equipment needed to work safely. At Clark, the process of continuous improvement never stops. We are always looking

to improve our procedures, educate our people, and identify innovative solutions to guarantee that everyone goes home safe at the end of every day.

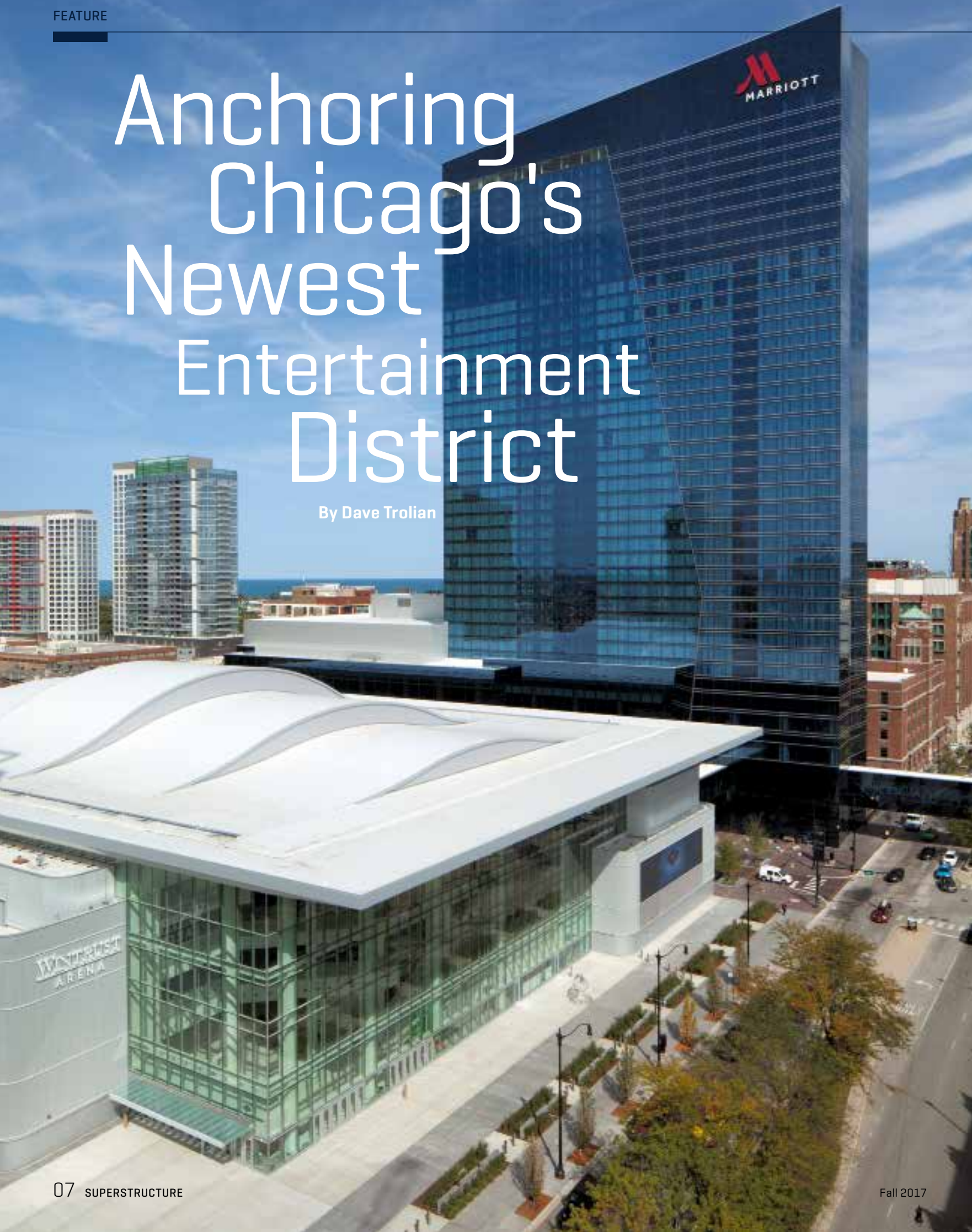
What drove you to identify better head protection for our workforce?

Seth: Seeing the effects of traumatic brain injuries first-hand, I knew our industry needed to evolve. We were providing our employees with protective equipment that was designed in the 1960s. With so many innovative products on the market, I knew there had to be a better way to protect our most vital organ.

A KASK representative introduced me to their new product line of helmets equipped with adjustable chin straps. Coming from an adventure sports niche, they were looking for guidance on our industry needs and standards. Clark partnered with KASK to improve the helmet’s design so that the prototype received the appropriate rating. I am proud to say that Clark was the first in the construction industry to pilot and fully adopt these helmets—each of our 2,000

Anchoring Chicago's Newest Entertainment District

By Dave Trolan



McCORMICK SQUARE—THE CHICAGO NEIGHBORHOOD SURROUNDING McCORMICK PLACE, the country's largest convention center—is built on a vision of entertainment, growth, and economic stability. For a quarter century, Clark has worked alongside the Metropolitan Pier and Exposition Authority (MPEA) to transform the campus into the nation's top convention location and a major economic engine for the city.

Acting as the lead member of design-build joint venture team, Prairie District3 Partners, Clark recently delivered the latest additions to the district: Wintrust Arena, the new home to DePaul University's men's and women's basketball teams, and the city's WNBA team, the Chicago Sky, and the 40-story Marriott Marquis Chicago, a flagship hotel for the international hospitality conglomerate. These projects add a new dimension to the neighborhood, and are taking MPEA one step closer to achieving their vision of a thriving, 24/7 destination for conventioners and Chicagoans alike.

Clark's relationship with the Metropolitan Pier and Exposition Authority first began in 1992 on the 2.9 million square-foot McCormick Place South Hall Expansion, a project that helped kick-start our portfolio of work in the Windy City and established a foundation of trust and mutual respect with a valued, repeat client. Since that time, we have worked hand-in-hand with MPEA to transform the convention center and surrounding community, delivering more than \$2.2 billion of work and 8 million square feet of projects in McCormick Square, including the South Hall, the 2.8 million square-foot McCormick Place West Expansion, and the construction and subsequent expansion and renovation of the adjacent Hyatt Regency McCormick Place.

Our latest collaborations together—the 10,387-seat sports and entertainment venue and 1,205-key hotel—add exciting new amenities that transform McCormick Square into a world-class convention and entertainment hub. More than just reshaping the local landscape, these projects have set new industry benchmarks for speed of delivery, innovative

The 10,387-seat arena will serve as home court for the DePaul University men's and women's basketball teams.



Photo by: Mark Campbell Photography

engineering, and superior team collaboration, all consistent themes in Clark's 25-year history with MPEA.

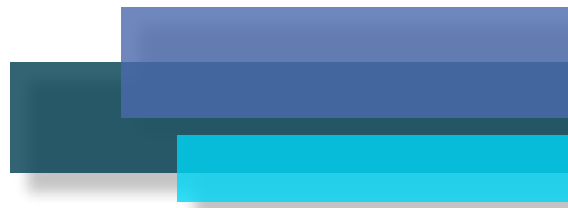
With any construction project, speed to market is critical. As essential components of MPEA's master plan for McCormick Square, it was crucial that the arena and hotel got off on solid footing to ensure their delivery within a tight timeframe. Clark successfully built both projects, totaling \$500 million, in just 25 months. But the projects' aggressive design and construction timelines were not the only challenge our team faced. A booming Chicago construction market yielded skilled labor shortages, increased demand for materials, and cost escalation.

As Wintrust Arena and the Marriott Marquis moved into design in 2014, early budgets for the projects rose, and concerns grew over whether they could be built within MPEA's stipulated budget. Clark leveraged the collaborative design-build process, relationships with the subcontracting community, and deep bench of experience to identify and deploy innovative engineering solutions to reduce costs without eliminating scope, reducing programming, or changing the

buildings' original design intent.

Wintrust Arena was at particularly high risk for not being built due to cost escalation. Through an intensive analysis of the project, and close coordination with MPEA, our design-build team identified and implemented numerous solutions to cut costs. Original plans called for a portion of the arena bowl to sit 22 feet below ground. Raising the event floor to grade level eliminated the need for costly excavation, earth retention systems, waterproofing, and foundation-wall work. The team's modified slab-on-grade design not only reduced the budget by \$20 million but also improved the overall construction schedule.

Additional creative design solutions, including an elevated main concourse level and a new entrance and lobby on the southwest corner of the building also provided cost savings. The team re-engineered the roof expression and exterior walls, façade materials, and HVAC distribution to reduce costs, while maintaining the spirit of Pelli Clarke Pelli's original iconic roof design. These innovative solutions provided essential savings—without sacrificing program requirements—and allowed the arena to move forward on schedule.



The team's modified slab-on-grade design raised the event floor to grade level, eliminating the need for costly excavation.

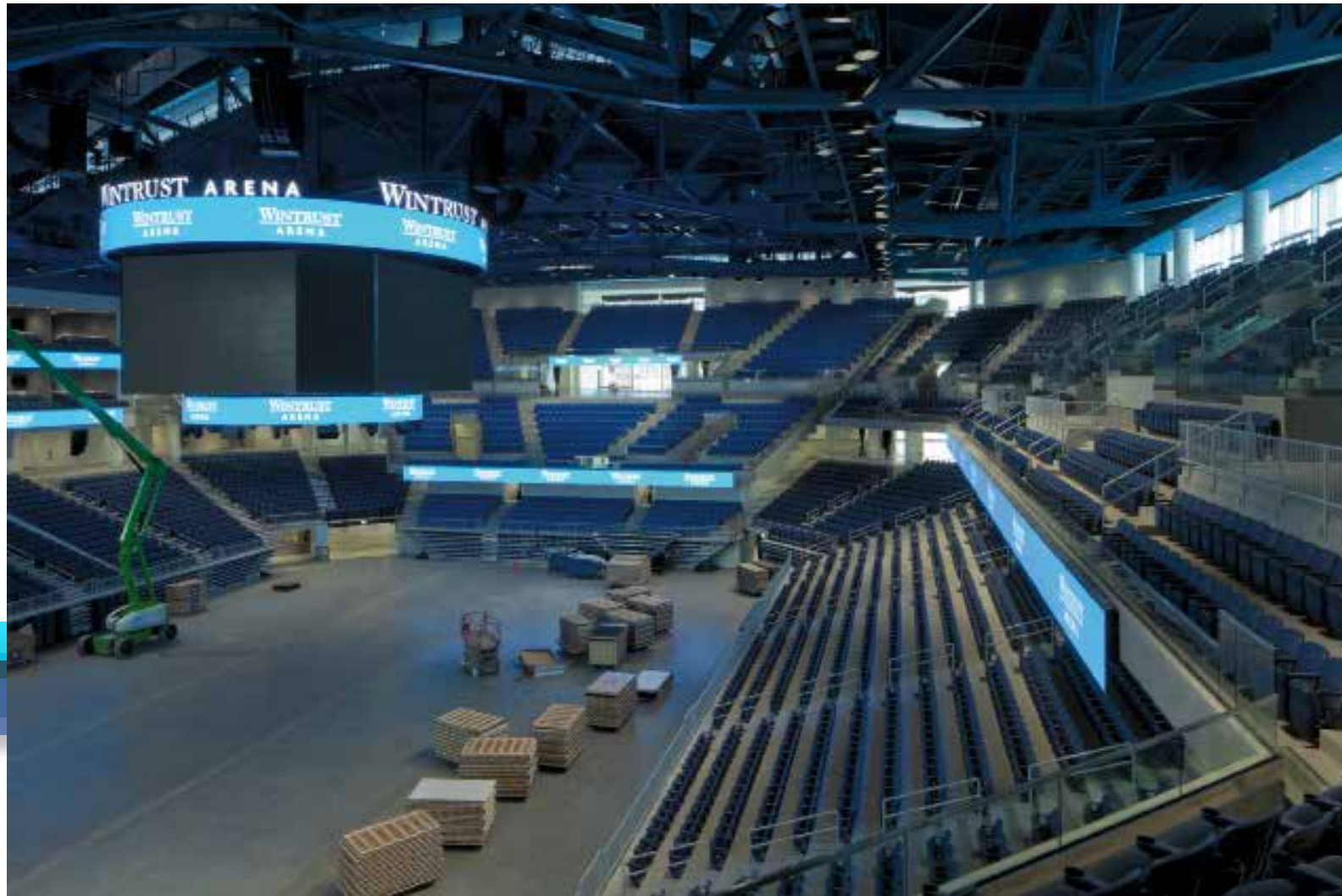


Photo by: Brian Fritz



The 40-story Marriott Marquis includes 1,205 guest rooms, 60 specialty suites, below grade parking, retail space, banquet and meeting rooms, ballrooms, a fitness center, and a large restaurant and bar on the ground level.

Photo by: Isaac Maiselman

The \$350 million Marriott Marquis also required careful examination to determine effective ways to reduce costs. During pre-construction, Clark addressed cost-drivers in the design that did not impact building performance or the guest experience. This included reconfiguring the tower orientation to make the design more cost effective, as well as reducing the number of elevators, and removing the building maintenance unit and mechanical floor.

"These solutions were the result of a collaborative environment where all team members focused on optimizing our approach and minimizing waste of materials, time, and effort. Everyone involved in the project was in alignment with the goal of always doing what was best for the project, MPEA, and the end user," said Mark Eames, Vice President of Preconstruction with Clark.

The team also identified other avenues for cost and schedule savings, including securing demolition and foundations permits prior to the full building permit which enabled critical work to begin as soon as possible. The early and aggressive procurement of several key trades, including mechanical, electrical, and concrete, at 50 percent design documents enabled the team to lock in pricing and provide the best value to MPEA.

Wintrust Arena and the Marriott Marquis bring an exciting new dimension to McCormick Square. But the story of their

impact is greater still. These buildings play an important role in both community and economic development; they represent opportunity for residents and continued prosperity for the local community. Throughout construction, Clark sought to maximize opportunities for minority business enterprises and women-owned business enterprises, awarding 25 percent and 7 percent of contracts to MBE firms and WBE firms, respectively. Long after they open, these facilities will continue to provide job opportunities, spur development, and create a vibrant, thriving community in Chicago's South Loop—just what MPEA envisioned and what we have worked together to achieve. ■



Dave Trolian is a Senior Vice President and Regional Executive Officer in our Northern Region. Earlier in his career, he served as a Superintendent on the McCormick Place South Hall Expansion and Hyatt Regency McCormick Place projects.

Prairie District3 Partners is comprised of construction partners Clark Construction Group, LLC, Bulley & Andrews, LLC, Old Veteran Construction, Inc., McKissack & McKissack Midwest, and designers Goettsch Partners and Moody Nolan, Inc. Pelli Clarke Pelli Architects is the bridging designer and Moody Nolan, Inc., is the Architect of Record for Wintrust Arena; Gensler provided initial designs and schematic designs, and Goettsch Partners is the Architect of Record for the Marriott Marquis.

Building for the Next Generation

Connectedness, online and offline, is defining higher education construction.

By Karri Novak

THE NAME FOR THE NEXT GENERATION IS STILL BEING DEBATED, but whether they are called the iGen or Gen Z, the classes of 2020 and beyond arrive to college campuses with a different perspective from millennials. This generation doesn't remember a time before the internet; they are technology-centric, socially aware, and value their well-being.

Meanwhile, trends in academia are emphasizing active learning environments and collaborative projects over traditional classroom learning of the past. Technology also has become an essential—not ancillary—part of the classroom. Across the country, Clark is leveraging its construction expertise, extensive higher education portfolio, and relationships with AEC partners to provide colleges and universities with facilities tailored to this next generation of students.

AN IMMERSIVE EDUCATIONAL EXPERIENCE

Higher education is increasingly emphasizing learning environments that extend beyond the confines of the classroom. Engaging in active learning and interdisciplinary studies requires spaces that allow for hands-on experience and increased interaction among students and faculty.

The recently completed **Vanderbilt University Engineering and Science Building** is an example of both of these principles. Connected to the existing School of Engineering's Olin Hall via a 2-story atrium, the 240,000 square-foot building is designed to foster innovation and teamwork across disciplines.

By connecting facilities from various schools, the Engineering and Science Building stimulates collaboration and socialization. Cafés and flexible social spaces like the Undergraduate Commons promote spontaneous conversations with peers and faculty, while group work spaces allow for increased collaboration. The Innovation Pavilion—a space dedicated to intellectual property creation and entrepreneurship—is designed to connect students and faculty with industry mentors.

At **San Diego State University**, the new **Engineering and Interdisciplinary Sciences Complex** is guided by the vision that intellectual “collisions” are essential for today's critical research. Scheduled for completion in January 2018, the building is designed to spark creativity with its teaching labs and flexible research space. An entrepreneurship center will help students develop real-world applications for research discoveries and bring products to market.

*Bowie State University
Center for Natural Sciences, Mathematics, and Nursing*

Photo by: Nick Merrick, Hall + Merrick



This page, left: Vanderbilt University Engineering and Science Building, photo by: Rick Smith; bottom: Washington State University Digital Classroom Building, photo by: Benjamin Benschneider; Opposite page, left: University of California Hastings College of the Law Academic Building Replacement, rendering courtesy of Skidmore, Owings & Merrill; right: University of Maryland Edward St. John Learning and Teaching Center, photo by: Eric Taylor

With an open, modular floor plan, the building's workspace will flow seamlessly between labs, offices, and common space. Mobile furniture, glass walls, a coffee shop, and communal whiteboards in the hallways facilitate spur-of-the-moment brainstorming. The Thomas B. Day Quad will tie these elements together by providing a place for students and researchers to gather and bump into one another—a literal collision course for sparking new ideas.

Interaction is not just essential to the sciences, however. Collision spaces are a key design element in the **Academic Building Replacement** project for the **University of California Hastings College of the Law**. Currently in the design phase, this new facility features a monumental stairwell as its centerpiece. This space will allow for the incidental interactions that often birth new ideas.

University of Kansas Central District Development, which received public-private financing with assistance from Edgemoor Infrastructure and Real Estate, is a massive campus site. At its heart is the 285,000 square-foot academic integrated science facility, which will provide new ways for instructors and classmates to interact. The facility provides closer access for undergraduates to cutting-edge research in chemistry, medicinal chemistry, physics, molecular biosciences, and related fields.

STATE-OF-THE-ART FACILITIES FOR EVOLVING TECHNOLOGIES

Technology is mission critical to universities' dual missions of research and education. Looking for solutions to some of society's most pressing challenges requires complex tools and access to evolving technologies. Educational spaces also have changed as digital-native students demand

more connectivity and engagement; distance learning programs mean many students may never even step foot on campus.

Still, technology today is not the technology of tomorrow, and Clark works with clients to ensure their facilities do not have a short shelf life. By building more flexibility into projects, leading-edge campuses are able to keep pace with technology that is changing on a seemingly daily basis.

Opened this fall, **Washington State University's Digital Classroom Building**, also referred to as "The Spark," is a high-performance academic facility that will provide robust systems, as well as adaptable infrastructure to accommodate rapidly evolving technology. Spaces easily can be reconfigured for different academic needs and technologies.



The 4-story, 83,000 square-foot facility features a 250-seat active learning hall with curved LED televisions surrounding the space. This immersive learning environment will engage students in shared storytelling and provide screen-sharing capabilities essential for a collaborative learning experience.

Contemporary engineering challenges are at the intersection of information and biological technologies. Currently under construction, the **University of California, Los Angeles' Engineering VI, Phase II** project will serve as the new, ultramodern home for the Computer Science Department, bringing together these engineering fields to fuel innovative research and immersive learning. The 90,000 square-foot facility provides a collaborative research computer laboratory, as well as an incubation



lab space, to promote scientific discoveries. The new technology-enabled learning center will better support distance learning students and instructors, designed to accommodate the continued expansion of the school's Master of Science Online Program.

On the east coast, the **University of Maryland A. James Clark Hall** is nearing completion. The facility will provide research and engineering space for the Fischell Department of Bioengineering. Designed with the future in mind, the facility features two stories of flexible open classroom and laboratory space, including wet and dry spaces and a vivarium. There also will be new, state-of-the-art optical laser laboratories and imaging laboratories equipped with 3-D printing capabilities, laser devices, and magnetic resonance imaging machines.

The **Bowie State University Center for Natural Sciences, Mathematics, and Nursing**, also in Maryland, was designed and constructed specifically to promote student engagement and flexibility. The cutting-edge nursing suite is complete with a nursing skill laboratory, patient simulators, nursing beds, control spaces, exam rooms, and debrief rooms, giving nursing students hands-on experience with state-of-the-art, life-saving technologies.

A HOLISTIC APPROACH TO SUSTAINABILITY

Another characteristic of the next generation of students is their social awareness. Sustainability and its relationship to well-being is critical to these students. Whether increasing daylighting or incorporating rooftop gardens, universities are continuing to build in innovative LEED® features to meet these students' preferences.

The Center for Natural Sciences, Mathematics, and Nursing at Bowie State features a smart electrochromic glass curtain-wall system that will reduce energy costs to the

university while providing a comfortable atmosphere to enhance students' productivity and sense of well-being. As the sunlight changes, the tinting on the glass adjusts to control light levels and heat entering the building. The system also can tint on demand in each classroom.

Designed to achieve LEED Gold certification, University of California, Los Angeles' Engineering VI, Phase II project also utilizes high performance building strategies. Passive systems in the building include daylighting and natural ventilation, while active systems include chilled beams, displacement ventilation, and smart controls. Additionally, solar renewable and water recycling technologies optimize the energy and water consumption of the building.

Living spaces also require a holistic understanding of environmental features that impact student comfort and health. The **University of California, San Diego North Torrey Pines Living and Learning Neighborhood** is targeting LEED Platinum certification. Scheduled for completion in August 2020, the 1.5-million square-foot project co-locates undergraduate housing, student activity space, and academic facilities in a central community. The design is centered around the concept of an open, pedestrian- and bike-friendly layout. Buildings will include indoor/outdoor spaces, decks, and terraces set among drought-resistant landscaping. The neighborhood's dining hall will include an anaerobic digester system to convert leftovers into fertilizers and renewable green energy.

Immersive learning experiences, physical and virtual connectedness, cutting-edge technologies, and healthy environments are all components in the evolution of college campuses. We can't wait to see what the future holds for the students that are learning, creating, and innovating at these state-of-the-art institutions. ■

Smart Classrooms at the University of Maryland Edward St. John Learning & Teaching Center

Higher education is rethinking traditional lecture halls and seminar rooms as they accommodate distance learning and smart classrooms. Both, however, rely on a university having a fast and reliable IT infrastructure. The University of Maryland understood this challenge and drew on S2N Technology Group's expertise to ensure their latest facility would meet their evolving technology needs.

S2N, a wholly-owned subsidiary of Clark, serves as the company's central point of contact for customized design, installation, and support for IT services for new construction and renovations. By partnering with clients, architects, and engineers, S2N ensures that reliable, high-performance technology is integrated into the construction process.

The Edward St. John Learning and Teaching Center accommodates 2,000 students throughout multiple classrooms ranging in size from 80 to 320 seats. S2N installed best-in-class audio-visual systems throughout the teaching center's 22 classrooms, labs, and training rooms. This audio-visual system includes video capture as well as streaming and conferencing capabilities, which will enable students to interact with faculty and students off-site at the touch of a button.



Karri Novak is a Vice President in our Western Region and a leader in our Higher Education Center of Excellence.



Photo by: Dominique Muñoz

ENVISION IN ACTION AT LITTLE PATUXENT WATER RECLAMATION PLANT

The sustainability rating system that rewards creative and synergistic processes for infrastructure projects

As wastewater treatment plants adapt to more stringent water quality and environmental requirements, clients, designers, and constructors are utilizing sustainability rating systems that reward creative and synergistic processes. Similar in purpose to the USGBC's LEED Rating System, the Envision™ Rating System is a tool used to evaluate sustainable approaches to building civil infrastructure.

Envision grades projects based on a holistic approach to sustainability and utilizes the Triple Bottom Line—social, environmental, and financial benefits—as a framework to evaluate the short- and long-term costs and benefits of the project. Envision rewards teams for early collaboration with stakeholders and the community, and for integrating non-traditional methods for project planning, design,

construction, and operation.

Clark Civil's team at the Little Patuxent Water Reclamation Plant in Howard County, MD is utilizing the Envision Rating System to facilitate the flexible development of sustainable infrastructure. The team is an example of early stakeholder integration and its benefits for a project's sustainability and construction goals.

Howard County's Bureau of Utilities brought in Clark and key project stakeholders one year prior to the start of construction to optimize the project design. Through a highly collaborative effort between the project team, including Clark, Howard County, HDR Engineering, and major subcontractor partners, the team identified multiple opportunities to achieve Envision points through project best practices and management. Throughout the design phase, the team embodied

Once the upgrade is complete, the volume of biosolids processed at the Little Patuxent Water Reclamation Plant will be reduced, and the quality of the biosolids produced will be high enough to use on local farmland and in the community.

Envision's emphasis on an integrated approach by conducting workshops to discuss constructability comments, increase project efficiency, and receive input from the Plant's Operations staff.

The team is utilizing sustainable principles to inform their actions, and has implemented a number of community-focused sustainable ideas on the project, which is now under construction:

- Casting reef balls using excess concrete that would otherwise be disposed. These reef balls will go to the Maryland Artificial Reef Program to help the Chesapeake Bay's oyster recovery efforts;
- Utilizing commingled dumpsters to maximize the quantity of materials recycled;
- Stockpiling all excavated soils for reuse in fill areas. By eliminating the need for off-site backfill material, the team is providing both a cost benefit to the project and an environmental benefit to the County; and,
- Holding a bidder's community outreach event and advertising heavily to local small and disadvantaged businesses. The team is continuing outreach for local craftspeople to develop the community's skill base.

Upon completion of the project, the quantity of trucks needed to haul biosolids will decrease from the seven trucks per day it currently takes to one truck per day. The reduction will lower operating costs by \$2 million annually, providing a significant economic benefit to the Plant and Howard County tax payers, as well as reducing carbon emissions and strain on local roads. The Little Patuxent team is proving that a focus on sustainability can result in long-term cost savings for our clients on civil infrastructure projects. ■

SPOTLIGHT ON: OLD VETERAN CONSTRUCTION

Old Veteran Construction, Inc. CEO Jose Maldonado is proud to help build some of his hometown's most anticipated new additions



Photo courtesy of Old Veteran Construction, Inc.

A Chicago native, Jose Maldonado grew up on the far south side of the city in Trumbull Park, a Chicago Housing Authority (CHA) development in the industrial neighborhood of South Deering. When he was 16 years old, he began working as a laborer and carpenter. As his experience grew, so did his aspirations, and in 1986 he started Old Veteran Truck Pointing, a sole proprietorship specializing in masonry restoration. He charged \$200 for his chimney restoration services. Jose never imagined that 30 years later his company—which became Old Veteran Construction, Inc. (OVC) in 1993—would be part of the team constructing the combined \$500 million Marriott Marquis Chicago and Wintrust Arena at McCormick Square.

In the beginning, OVC faced many of the challenges that small businesses experience around the country. Maldonado names billing and collecting payments on time as one of the biggest challenges at the start of his business. "I had no line of credit in the beginning. I

could only count on the cash I had in the door, so I had to be diligent about billing and collecting payment," Jose recalled. Over time, as Jose built up his reserves, he was able to expand his portfolio of services, and started to tackle general contracting work in 1997.

OVC would later go on to bid for a Great Lakes Naval Base job—a contract that was awarded to Clark. Shortly thereafter, Jose received an invitation to meet with the Clark team, which opened doors and created opportunities for the OVC team. OVC later joined Clark as a partner on the Hyatt Regency at Chicago's McCormick Place and the Malcolm X College Campus, building OVC's portfolio and experience on major Chicago projects. Maldonado explains, "Working with Clark and building that relationship enabled my team to learn estimating and business development skills that helped us grow steadily to where we are today."

Fast forward to 2017, and OVC is a full service MBE

General Contractor achieving over \$170 million in sales. The company recently joint-ventured with Clark once again to manage work crews on both the Marriott Marquis Chicago and the Wintrust Arena—a massive undertaking that Jose couldn't have imagined at the start of his business in 1986. Not only is Maldonado working on some of the city's most anticipated new additions, but he is also coming full circle in his experience as a Chicago native. After growing up in a Chicago Housing Authority development, he is now working with CHA to improve Chicago's South Side. He serves as a mentor within his community and participates in CHA's Section 3 program, which brings employment and economic opportunities to low-income Chicago residents.

His advice to other small businesses in the construction industry? Understand your finances, and continue to re-invest funds back into your company. Keep learning, and help each other—it's all about team work. ■

PROJECT MILESTONES

This quarter, our project teams across the country reached some exciting building milestones:

UNDERWAY

Frost Tower

The city of San Antonio is witnessing a significant milestone not seen in almost three decades—the ascension of a new high-rise office tower. Frost Tower has started its vertical climb after the installation of the project's first tower crane. The crane rose into the San Antonio skyline in July and will be used to construct the 460,000 square-foot, 23-story structure.

Chase Center

Chase Center—one of San Francisco's most anticipated projects—is on the rise. The facility, which will be home to the Golden State Warriors, as well as a bevy of office and retail space, is buzzing with activity as more than 300 craftworkers ascend on the site each day. The project team reached a major milestone this summer, completing mass excavation of the 11-acre campus in late August. They removed 300,000 cubic yards of soil and stabilized the site to prepare for vertical construction. Concrete operations are in full swing as crews have begun forming the arena's structural cores and placing concrete for Chase Center's structural decks. The team is focused on preparing the project for structural steel erection this November.



John J. Benoit Detention Center

In August, Clark's John J. Benoit Detention Center project team, along with representatives from the County of Riverside Economic Development Agency, celebrated the completion of structural steel on the 500,000 square-foot detention center in East Indio, CA. The new facility will expand and replace the existing Riverside County jail, and will increase the inmate bed count from 353 to 1,626. When the new facilities are complete, the team will begin equipment salvage, demolition, and hard-scape construction at the former jail location.

William Beaumont Army Medical Center Replacement

The Clark|McCarthy team constructing the new William Beaumont Army Medical Center at Fort Bliss in El Paso, TX held a "dry-in" ceremony to celebrate the exterior completion of the 1.1 million square-foot healthcare campus. The team also completed the Clinical Investigation Building and Central Utility Plant exterior envelopes and are working with the United States Army Corps of Engineers - Fort Worth District to complete patient room mock-ups prior to their construction.

TOPPING OUT

West Lane

In July, the Clark team constructing Bethesda, MD's newest residential building—West Lane—celebrated topping out the 7-story, 112-unit complex. The luxury apartment building will include two levels of below-grade parking, a courtyard and roof terrace, a community room, and will feature high-end finishes. The building is scheduled for substantial completion in May 2018.

Midtown Center

Clark's Midtown Center project team topped out the second tower of the 875,000 square-foot office building located in Washington, DC. Clark Concrete, a division of Clark Construction, placed 25,000 cubic yards of concrete to reach the top of the structure, which will be complete in 2018. When complete, the structure will feature multiple three-story atria and will include 45,000 square feet of retail space on two levels, a rooftop terrace, a fitness center, and a public courtyard.



150 Van Ness

The Clark team constructing the 150 Van Ness complex—located in the heart of San Francisco's Civic Center neighborhood—celebrated the completion of the building's cast-in-place concrete superstructure. During a ceremony to mark the milestone, Jeff Kanne, President and CEO of National Real Estate Advisors, addressed the team saying, "We appreciate the teams of craftworkers and trades working with Clark to build this first-class project on schedule and on budget." Having worked more than 250,000 hours without a lost-time incident, the team also was commended on their safety performance. Clark plans to turn over 100 of the building's apartments in February 2018; remaining units will be turned over in April.

COMPLETE

Linea Apartments (215 West Lake)

After 18 months of construction, Linea Apartments—previously known as 215 West Lake—reached substantial completion on August 18, three months ahead of schedule. The project team accomplished this milestone through early communication with all stakeholders to share the plan and promote buy-in. Already occupied, the 33-story tower is located in downtown Chicago and offers residents four floors of amenities, including fitness rooms, pool, spa, outdoor terraces, theater, library, business center, cafe, social room, and conference rooms. The building's ground floor also features 5,340 square feet of retail space.

Office of the Chief Medical Examiner

In October, the Clark team obtained the Temporary Certificate of Occupancy for San Francisco's new Office of the Chief Medical Examiner in the city's Bayview neighborhood. The seismically safe facility features additional space for employees and highly technical laboratories.

The enhanced capacity will allow employees to efficiently handle cases and produce timely results for victims of crimes, for the criminal justice system, and for medical authorities.



Clark Announces Officer Promotions



Patrick Blake
Vice President
Corporate

Patrick joined Clark's Legal Department in 2012 as Assistant General Counsel. Patrick advises project teams on construction-related legal matters, negotiates contracts for new work, and provides day-to-day legal counseling for the Clark units. His work has afforded him the opportunity to work alongside the teams executing Clark's most complex projects. As Vice President, Patrick has expanded his responsibility for the national leadership and management of the Legal Department. Prior to joining the company, Patrick practiced real estate law at Jones Day in Atlanta and Griffin & Murphy and Goulston & Storrs in Washington, DC.



Mark Goodwin
Vice President
Regional Group

Since joining Clark in 1999, Mark has guided construction on a number of signature projects, including the Johns Hopkins University San Martin Center in Baltimore, MD and the United States Institute of Peace in Washington, DC. As project executive, Mark oversaw the successful completion of the Food and Drug Administration's Center for Biologics Evaluation and Research and the George Washington University Science and Engineering Hall. In 2016, Mark relocated to Lawrence, KS, to lead the University of Kansas Central District Development project, a public-private partnership with Edgemoor Infrastructure and Real Estate.



Kwaku Gyabaah
Vice President
Western Region

Kwaku joined Clark in 2005 and worked on numerous projects with Clark Foundations. After transitioning to support Mid-Atlantic preconstruction efforts, Kwaku worked with leadership to conceptualize an advanced approach to estimating, bidding, and purchasing that supported the pursuit process and provided value to clients. He later relocated to the Western Region as Director of Purchasing, where he was a key member of many project pursuits, including the U.S. Courthouse - Los Angeles, Salesforce Tower, and Chase Center. He is responsible for the west coast expansion and leadership of Clark's Strategic Partnership and community engagement programs.



Eddie McBride
Vice President
Corporate

Eddie became Atkinson's Controller of Heavy Civil Operations in 1993. In 1998, Eddie played a significant role in the financial transition and integration of Atkinson with Clark Construction Group. Following the integration, Eddie transferred to Clark and became Director of Cost Engineering, where he led critical operational finance efforts working with project teams and senior management to oversee budgeting, forecasting, and profit analyses. Eddie will continue to guide operational finance efforts while collaborating with executive leadership to expand the company's proactive approach to identifying and mitigating financial risks early in the project lifecycle.



Larry Moore
Vice President, Engineering
Corporate

Larry joined Clark in 1995 and has delivered successful projects throughout the Mid-Atlantic, and Western Regions, as well as Atkinson, Clark Concrete, and Clark Foundations. After the successful completion of the Dulles East Automated People Mover project, Larry served as Clark Concrete's Director of Engineering to provide guidance on the design and construction of all temporary works for the division. In 2012, Larry was named managing director of Clark Foundations and led some of the most complex foundation projects in Washington, DC, including the National Museum of African American History and Culture, CSX Virginia Avenue Tunnel, and 655 New York Avenue.



Lynn Perry
Vice President
Corporate

Lynn joined Clark in 2009 as Director of Accounting and in 2013 was promoted to Corporate Controller. Throughout her career at Clark, she has served as a key finance business partner to both operations and executive management in annual billing rate development, audits, and annual government compliance reporting. She has played an instrumental role in the success of many of the company's most complex equity transactions. As Vice President, she will continue to collaborate with leadership to execute strategic initiatives. Prior to joining Clark, she led financial reporting for Marriott International, Choice Hotels International, and Pepco Holdings.



Tim Pritchard
Vice President
Mid-Atlantic Region

Tim joined Clark in 1992 and throughout his career has led construction efforts on some of Clark's most notable projects in the Mid-Atlantic Region, including 625 North Washington, Chevy Chase Bank Headquarters, Fairfax Corner South, Kennedy Warren Apartments, University View II, and The Avenue. As a construction executive, he oversaw large portions of CityCenterDC, one of the largest urban redevelopments in the District of Columbia. Tim is currently guiding construction operations on The Yards' Parcel O. He has been instrumental in Clark's Apprentice Career Accelerated Mentoring Program, and has taught classes for Clark Corporate University and the Field Development Group.

KRIS MANNING NAMED VICE PRESIDENT OF SAFETY

Having been a safety leader and champion throughout his career, Kris will lead our efforts in achieving an injury- and incident-free workplace. With almost a decade of self-perform experience in Clark Foundations, Clark Concrete, and Atkinson-Southern California, Kris is passionate about safety and the well-being of the workforce on our projects.



Over the past several years, he has focused on our west coast civil portfolio with the successful completion of numerous projects, including the Anaheim Regional Transportation Intermodal Center, East County Bus Maintenance Facility, and the SR-91 Corridor Improvement project. In his new role, Kris will concentrate on planning for safety throughout all aspects

of our business, enhancing the safety climate on our projects, and providing a deeper level of safety training nationally. He will continue to measure our safety success against leading indicators and promote safety through personal connections with Clark's team members, trade partners, project stakeholders, and clients. ■

U.S. COURTHOUSE - LOS ANGELES EARNS DBIA NATIONAL AWARD OF MERIT

The Design-Build Institute of America has awarded the new United States Courthouse in Los Angeles an Award of Merit for the project's success in not only balancing architectural significance, high sustainability, timeless design, and a tight budget, but

also for setting new standards for design-build best practices on GSA projects nationwide. Featuring a distinctive "floating" cube design, the Federal Courthouse is a monumental engineering marvel that serves as a model of civic architecture. ■



Photo by: Bruce Damonte



Photo by: Eric Taylor

UNIQUE IN DESIGN AND USE, SQUARE 50 EARNS INDUSTRY RECOGNITION

Appropriately dubbed "Squash on Fire," Square 50 is an eclectic, multifunctional building that brings together affordable housing units, luxury squash courts, and the DC Fire Department under a single roof. Located in the West End neighborhood of Washington, DC, Square 50

has been awarded four awards in 2017 for its complex and unique development: ABC Metro Washington Excellence in Construction Award, ENR Mid-Atlantic Award of Merit, AGC of DC Washington Contractor Award, and NAIOP DC|MD Award of Merit. ■



ATKINSON'S DEVORE INTERCHANGE DEEMED DESIGN-BUILD DONE RIGHT

The team at the I-15/I-215 Devore Interchange Improvements project transformed one of the worst grade-related bottlenecks in the country ahead of schedule and under budget. One key to their success was a partnership among project stakeholders that is earning the project multiple accolades. ENR California awarded the Interchange both a Best Project Award and an Excellence in Safety Award of Merit. Earlier

this year, the team also took home the California Department of Transportation (Caltrans) Best in Class Gold Award for Excellence in Partnering. In collaboration with Caltrans, the San Bernardino County Transportation Authority, URS Corporation, and AECOM, Devore Interchange has been named one of the most successful executions of Caltrans' 10 pilot design-build projects. ■

Field Development Group Focuses on Improving Communities

Clark's Field Development Group targets the best and brightest who have the potential to lead the company's largest and most complex projects in the future as Superintendents. Earlier this year, the Mid-Atlantic Region's Class of 2017 Field Development Group celebrated the completion of their intensive, three-year program. For their final projects, some members partnered with non-profits in the Washington, DC area to create a lasting impact in the community.

Sam Lichmira, Nick Orlando, and Derek Stevens partnered with Bread for the City to revitalize a deck with extensive wear and damage that employees and volunteers were utilizing at the facility. Clark worked with Wiebenson & Dorman Architects to develop drawings and obtain a DCRA permit. The team pulled together a scope, budget, schedule, permit, and plans as part of an

initial proposal. Once approved, the team obtained material and labor donations from JRB, UGC, J. Roberts, and ACECO, as well as engineering and design services from Scaffold Resources and Patuxent Engineering.

Will Lazration, Kerry Masser, and Laura Wachs completed their final project with the Boys and Girls Club to transform underutilized space at the center into a new Notes for Notes™ Studio with a Jam Room, Mix Room, and Track & Broadcast Room. Notes for Notes Studios provide environments where kids can gain regular, free access to musical instruments, expert instruction, and the tools to create and record their own music.

Phil Jackson and Matt Weismuller are currently working on renovations to the Arlington Church of Christ. They will repair water damage in the space and update an existing storage room.



Sam Lichmira, Nick Orlando, and Derek Stevens organized a team of volunteers to rebuild a worn deck at the Washington, DC non-profit Bread for the City.

As part of their project, they are creating designs for Arlington County approval, demolishing two existing bathrooms, and obtaining material and labor from JRB, Power Design, Southland, Leedo, and Manganaro. ■

CLARK TEAMS UP WITH DCBIA FOR 25TH ANNUAL COMMUNITY IMPROVEMENT DAY

In September, Clark employees joined nearly 500 volunteers who came together in Southeast Washington, DC to complete a two-year effort to transform the



60-year-old Benning Terrace Community Center. In partnership with private companies and the DC Housing Authority, participants continued to improve the center and create an intergenerational center that will serve more than 400 families in Ward 7. Continuing DCBIA's extraordinary work from the year before, volunteers created a walking path, installed exercise equipment, built picnic benches and art stations, updated the community garden, performed general landscaping, and constructed permanent shade structures. Clark's Don Ramsey, a volunteer with DCBIA's Community Improvement Day for more than 15 years, led the company's participants at the event. ■

EMPLOYEES GIVE BACK BY GETTING BACK ON THE BIKE

This fall, employees across the country hopped on their bikes to race for causes close to their hearts. In September, Rick Solomon, Mike Ricker, Tom Farrar, Nathan Freeman, and Brad McDermott took part in Bike MS' Waves to Wine Ride. They collectively biked 150 miles from San Francisco to Napa, CA in support of the National Multiple Sclerosis Society.

Larry Stovicek, Meg Brogan, and Curran Johnson participated in Ride Allegheny to raise funds for Operation Second Chance (OSC) with a four-day, 310-mile bike ride from Pittsburgh, PA to Washington, DC. OSC provides support for wounded, recovering, and ill combat veterans as they transition back to active duty or civilian life.



A team of employees from the Mid-Atlantic Region took part in the Cystic Fibrosis Foundation's 7th Annual Cycle for Life. Cyclists rode either a 20-, 40-, or 65-mile route to raise funds for the foundation's Metro DC chapter. ■

THE WAY WE WERE



Ten years ago, our team delivered the \$882 million expansion to McCormick Place—on budget and ahead of schedule—for the Metropolitan Pier and Exposition Authority. The McCormick Place West expansion added 470,000 square feet of exhibit space to the existing 2.2 million square feet at the nation's largest convention center. The West Building also added 250,000 square feet of meeting space spread across 61 rooms and a 100,000 square-foot ballroom.

In all, more than 7,000 men and women—each of whose names are inscribed on a plaque in the building—contributed to the construction of McCormick Place West. The collaboration of employees on- and off-site played a critical role in the McCormick Place West Building grand opening eight months ahead of schedule. ■



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Photo by: Eric Taylor

