

SMART SOLUTIONS

WINTER 2019

Helping contractors save money and enhance productivity

Devine Brothers Rely on Viega ProPress for Safety and Speed in Historic Opera House Renovation



The historic Philadelphia Metropolitan Opera House has been reborn as a performing arts venue. Devine Brothers helped ensure the renovation was done quickly and safely by using Viega ProPress fittings for the plumbing.

Anticipating the challenges that historic buildings pose, mechanical contractor **Devine Brothers, Inc.** made sure that **Viega ProPress** was part of the plumbing design for the renovation of the Philadelphia Metropolitan Opera House (MOH) from the beginning.

“This is an old building,” said Rich Devine, president and CEO of Devine Brothers. “We didn’t want to use torches and have to worry about soldering or fire watch. There are plaster ceilings, too, and it’s a lot easier to get a pipe in there and press instead of getting your hands in there in the nooks and crannies in the walls to have to solder.”

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MILWAUKEE TOOL Eases McGilvray Mechanical’s Transition to OSHA Silica Compliance

To meet new, stricter Occupational Health & Safety Administration (OSHA) standards for how much silica dust workers could inhale, **McGilvray Mechanical** partnered with **MILWAUKEE TOOL** to implement productivity-focused dust collection solutions. “At a time when many manufacturers were still trying to figure out how to address this standard, the MILWAUKEE team was very knowledgeable with regard to the new requirements and were able to apply their

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MILWAUKEE TOOL’s dust collection solutions—like this new DUST TRAP Drilling Shroud—made it easy for McGilvray Mechanical to transition seamlessly to compliance with the new OSHA standards protecting workers from respirable silica.

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SMART SOLUTIONS

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and enhance productivity

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MANUFACTURER / SUPPLIER COUNCIL

MCAA

Adding Value to Your Supply Chain



Productive Partnerships

In this issue of *Smart Solutions*, you can read about MCAA supplier partners and member contractors who take partnering seriously. For example, The Poole and Kent Corporation took over a project months late in the game but managed to complete work 15 days early by teaming up with Victaulic's Virtual Design and Construction team. The University of Notre Dame's relationship with SLOAN goes back to the company's founding in 1906; for its expanded, renovated athletic complex, the university chose SLOAN products that are saving money and water.

Time Is Money

With Viega ProPress, Devine Brothers, Inc. completed an historic building renovation without resorting to torches or soldering—and saving 15 percent in labor. KOH Mechanical Contractors, Inc., estimated saving 30 to 40 percent in labor by using Anvil® International's Gruvlok® Products for a hospital renovation. Like any good partner, CNA has excellent advice to offer—this time on safe winter driving—that will help you save time and money by avoiding accidents and injuries.

Seamless Solutions

Thanks to careful planning and prefabrication, Integrated Facility Services put in new, easy-to-install Marley NC cooling towers from SPX Cooling Technologies Inc., at a government building while ensuring no disruption in essential services. A New York high school replaced their aging HVAC systems with new, more efficient Daikin Applied solutions that minimized the school's cost and downtime. To meet new, stricter Occupational Health & Safety Administration standards on silica dust, McGilvray Mechanical made a seamless transition to MILWAUKEE TOOL's productivity-focused dust collection solutions.

Taking Advantage of New Tech

Indoor Environmental Services of California is using XOi Vision technology, paired with Key2Act's MobileTech, to standardize its lead process, cutting out layers of review and reducing lead follow-up time from weeks to days. By switching to iBusiness Technologies' MobiliForms mobile solution, Wilkes & Company simplified its reporting and reduced costs so much that the entire system paid for itself within 12 months.

Herman Goldner Company adopted Key2Act's MobileTech to streamline processes and become more efficient. Current Mechanical implemented Jonas Construction Software solutions in the back office and on the front lines of service, making operations more efficient across the board and boosting the bottom line.

Find Your Partner

Please visit our supplier partners at MCAA19, where you can see innovations and new ways to take on the challenges that lie ahead. This is your opportunity to gain new insights and knowledge about growing your business with technologies, products, and services that cut costs, time, and errors and put you on a path to new levels of success.

Joseph Pikus, Chair

Join me in welcoming our newest supplier partners:

- American Valve
- Bitzer US, Inc.
- Building Start
- Cerro Flow Products LLC
- E+E Elektronik Corp.
- The Harris Products Group
- IFS North America
- LaborChart
- PlanGrid, Inc.
- Topcon Positioning Systems
- XOi Technologies

Starting from Behind, Poole and Kent Partner with Victaulic Design Team to Finish Early

Taking over a project months into the schedule and facing an extremely tight deadline, **The Poole and Kent Corporation** managed to complete work 15 days early by teaming up with **Victaulic's** Virtual Design and Construction (VDC) team. The Victaulic VDC team's expertise and use of BIM software allowed Poole and Kent to plan and coordinate so that they could make up for lost time on a new Baltimore apartment building.

Tight Schedule, Tight Space

The Poole and Kent Corporation, headquartered in Baltimore, was responsible for the fast-track installation of the HVAC infrastructure at 414 Light Street, a new, 44-story, 394-unit luxury apartment complex in Baltimore's historic Inner Harbor in the heart of the city. The building includes an urban park on the seventh floor, a skyline swimming pool lined with cabanas, a private fitness club, and a yoga and movement studio.

Over the past 70 years, Poole and Kent has established a reputation as

an expert in commercial mechanical design and construction services. They have managed an impressive range of projects, including biotech research facilities and hospitals, mixed-use commercial buildings, mission-critical data centers, energy plants, hospitality and gaming sites, and sports arenas.

The first challenge facing Poole and Kent on this project was a demanding timeline. "We took over the project from another mechanical contractor," explained Donald Campbell, senior vice president at Poole and Kent. "We were brought onto the project six to eight months later than is typical for a project of this size and scope."

For Poole and Kent, that meant the project was immediately behind schedule; in fact, they only had 10 months until the first residents were scheduled to move in and 65 days to complete the mechanical room. As their team nailed down near-term needs and prioritized work, they realized their need for a design partner to assist with the preconstruction

modeling of the penthouse mechanical room, allowing them to continue with other tasks.

According to Campbell, the mechanical room posed several challenges, including its limited size, the number of systems and the large-diameter piping that needed to be installed within it, and the fact that the architect had placed it on the top floor. Poole and Kent had to take all of these factors into account during both the layout and construction.

"We realized very quickly Victaulic had the technical capability and resources to provide the services necessary," said Campbell. Leveraging the company's VDC team, Poole and Kent "looked to Victaulic as a strategic partner."

Close Collaboration

The spatial constraints were a particular challenge for Poole and Kent's Building Information Modeling (BIM) Manager, Jeff Bishop, who said the low ceiling heights complicated the design. "We used Autodesk software to overcome some of the constraints, using clash detection spatial coordination throughout the trades," he said. According to Bishop, working with Victaulic's VDC team was like working with an extension of his own.

Moving quickly to the fabrication stage was critical. "We knew we needed to utilize a software platform that would enable us to expedite some of the coordination processes so we could begin fabrication and get caught back up with the original schedule," said Campbell.

As experts in the field, Victaulic's VDC team put Navisworks and Revit



Frequent communication and collaboration between Victaulic's VDC experts and the Poole and Kent team prevented several potential issues throughout the drawing process, which helped Poole and Kent meet the extremely tight timeline for 414 Light Street in Baltimore.

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Notre Dame Scores with State-of-the-Art SLOAN Products

The University of Notre Dame and SLOAN have a 113-year-long relationship, so the university chose SLOAN products as the basis of design for the expansion and renovation of their athletic complex. As a result, Notre Dame is conserving water, saving money, improving hygiene, and paving the way for easy maintenance in the long term.

Upgrading an Icon

One of the most iconic sporting venues in collegiate athletics, Notre Dame Stadium is not only at the center of Notre Dame's campus in Indiana, but also the center of the college football universe. Starting in 2014, the university began a 4-year campaign to transform the 88-year-old athletic complex and its surrounding areas into a year-round epicenter for academic and student life.

The result was the Campus Crossroads Project (CCP), the largest building initiative in the school's illustrious history. It was designed to place Notre Dame Stadium at the

intersection of research and student life while also serving as an event and hospitality space. A total of 2,105 SLOAN products were specified as part of the CCP, including water closets, urinals, Royal® and ECOS® flushometers, BASYS® and Optima® faucets, and soap dispensers in both new construction and renovations.

"The Campus Crossroads Project was a historic endeavor for the University," said Mark Hummel, the university's assistant director of utilities. "We're thankful that SLOAN was a part of it and excited about its presence in so many of the exciting new facilities on campus."

Efficient, Hygienic Solutions

SLOAN's Optima sensor faucets (EAF-100 LT ISM) provided water-efficient and hygienic solutions for the majority of the CCP installations. SLOAN's BASYS (EFX-200) faucets were specified for the remainder of the CCP projects, installed in buildings such as McCourtney Hall, Jenkins/Nanovic Hall, and parts of the stadium. The BASYS faucets

have a water flow rate of 0.5 gallons per minute and sensor-based, touch-free operation. These faucets also allowed for above-deck access for maintenance and adjustments. In addition, they have customized, engraved crowns sporting the Notre Dame logo. SLOAN's ESD-300 soap dispensers were installed throughout the stadium.

SLOAN Royal (186-0.125 ESS TMO) sensor urinal flushometers and SU-1009 urinals were installed across each phase of the CCP, delivering water savings and hygienic benefits to the Duncan Student Center, Notre Dame's music department in O'Neill Hall, and more. The sensor-activated urinal flushometer only uses one eighth of a gallon of water per flush (gpf) and limits false flushes with an eight-second arming time, which together reduce maintenance and operation costs. This type of durability and water conservation are especially critical in high-traffic facilities like the Student Center and the Smith Center for Recreational Sports.



The University of Notre Dame chose SLOAN products as the basis of design for the expansion and renovation of their iconic athletic complex—a decision that is helping the university conserve water, save money, improve hygiene, and pave the way for easy maintenance in the long term.

ECOS Dual-Flush Sensor-Activated Flushometers were specified for the third and final phase of the CCP—the renovation of Notre Dame Stadium. Matched with SLOAN's ST-2459 (wall-hung) and ST-2029 (floor-mounted) water closets, the ECOS 8111 automatically provides 81,000 Fighting Irish fans a full flush (1.6 gpf) or a reduced flush (1.1 gpf), based on the time spent in sensor

range, to reduce water use by up to 30 percent.

Notre Dame was challenged to keep its vitreous china water closets and urinals clean due to high traffic and the use of well water. SLOAN provided its unique and proprietary SloanTec® Hydrophobic Glaze on all of the fixtures. SloanTec uses nanotechnology to create a liquid-repelling surface that is seven times

more effective than other glazes, making it easier to clean—and to keep clean longer. It also eliminated rust stains that had previously been difficult for the Notre Dame janitorial staff to clean.

For more information, visit www.sloan.com. MCAA thanks SLOAN for being a benefactor of MCAA19 and sponsoring Awards of Excellence Speaker Theo Epstein.

KOH Mechanical Saves Up to 40 Percent with Anvil's Gruvlok Products

For KOH Mechanical Contractors, Inc., the labor savings realized with Anvil® International's Gruvlok® Products made them the clear choice for keeping a hospital remodel on schedule and on budget. "Depending on the environment, the labor savings are anywhere from 30 to 40 percent," according to Larry Hanson, vice president of KOH Mechanical, based in Riverton, UT. "If we would have been required to provide a welded system, we would have had to work the employees overtime in order to finish the project on time."

Intermountain Riverton Hospital is a 350,000-square-foot medical campus made up of four connected buildings. KOH secured the plan-and-spec job of remodeling the 80,000-square-foot outpatient facility with a new mechanical system, chiller plant, and air handling penthouse.

KOH Mechanical has been in business since 1985 and has extensive experience with plan-and-spec, new and retrofit, and design-assist jobs as well as design-build projects to achieve Good Manufacturing Practice (GMP) standards. They specialize in commercial and industrial projects, including office buildings, institutions, multifamily dwellings, central utility plants, and



KOH Mechanical estimates it saves up to 40 percent in labor by using Anvil's Gruvlok fittings, which allows the contractor to stay on time and on budget for projects such as its recent remodel of a Utah hospital outpatient facility.

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CNA's Tips for Winter Driving

Fair or foul weather, driving always presents hazards. But winter months curse drivers with conditions that are far different than those they face during the summer. CNA offers these tips for safe winter driving and being prepared for emergencies on the road.

1. Make sure that you are able to see and be seen.
 - Clean all the snow and ice off of your windshield, other windows, outside mirrors, lights, and reflectors.
 - Make sure your vehicle is equipped with good wiper blades and that wiper arms are exerting enough pressure on the blades to ensure a clean sweep.
 - If moisture or ice builds up on the inside or outside of your windshield, stop and clean it off.
2. Tires with good, deep treads are essential for good cornering and handling on slippery roads. Check the air pressure frequently to maintain the manufacturer's recommended pressure.
3. Drive at a speed that is safe for weather conditions. Snow- and



Snow- and ice-covered roads require speed adjustments. Slow down and increase your following distance.

- ice-covered roads require speed adjustments—slow down.
4. Stretch your “following” distance.
 - Knowing that winter surfaces increase stopping distance three to 12 times, the smart driver increases his normal dry-road following distance.
 - Heavy trucks require a longer stopping distance on slippery roads than passenger cars.
 - Don't tailgate.
5. Brake before curves.
 - All vehicles are particularly sensitive to overpowering, oversteering, and overbraking on curves.
 - Unseen hazards around the bend may require an evasive action, so turn your steering wheel slowly and smoothly, keep a constant speed in the turn, and tap your brakes carefully if it is necessary to slow down or stop.
6. Know whether your vehicle has an antilock brake system, and learn how to use it properly.
 - Antilock brake systems prevent your wheels from locking up during braking. If you have antilock brakes, apply firm, continuous pressure to the brake pedal.
 - If you do not have antilock brakes, you may need to pump your brakes if you feel your wheels starting to lock up, according to the National Highway Traffic Safety Administration's Focus on safety: Winter driving tips, available at <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/winter-driving-tips.pdf>.

Navigating Around Snow Plows

- Don't crowd a snow plow or travel beside it. Snow plows travel slowly, make wide turns, stop often, overlap lanes, and exit the road frequently.
- The road behind an active snow plow is safer to drive on. If you find yourself behind a snow plow, stay behind it or use caution when passing.
- When you are driving behind a snow plow, don't follow or stop too closely. A snow plow operator's field-of-vision is limited; if you can't see the mirrors, the driver can't see you. Also, materials used to de-ice the road could hit your vehicle.
- Snow plows can throw up a cloud of snow that can reduce your visibility to zero in less time than you can react. Never drive into a snow cloud—it can conceal vehicles or hazards.

From U.S. Department of Transportation, National Highway Traffic Safety Administration. (2017–2018). Focus on safety: Winter driving tips. Retrieved from <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/winter-driving-tips.pdf>.

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Design Flexibility of Daikin Applied Solutions Ensures Comfort, Efficiency for New York School

Built in the 1950s, White Plains High School in New York has stood the test of time, so when an HVAC upgrade was needed, school administrators wanted to keep it simple—and minimize cost and downtime. They selected **Daikin Applied** variable refrigerant volume (VRV) solutions to replace their aging systems with new, more efficient ones that fit the bill. Now, the school not only has a comfortable climate but also a more energy-efficient, quieter, and healthier classroom environment.

Overcoming Hurdles

White Plains High School's B-Wing is one of two original structures on campus and leverages the common architectural design methods of the era in which it was built. Exterior structural beams have ensured the integrity of the 12,000-square-foot building over time. However, the original design posed some challenges when it came to updating the HVAC system.

School administrators knew they wanted a like-for-like replacement of the current unit ventilators (UVs) to minimize downtime, avoid the added expense associated with designing a new solution, and continue using the existing hot water system. In designing the replacement system, it was recognized that the exterior structural beams were blocking the free-air space for the new, more efficient compressorized UV design, which required higher condenser airflow than the older UV models.

To eliminate the need for condenser airflow, the school installed Daikin Applied UVs, which come with factory-installed electronic expansion valves (EEVs) and use remote Daikin VRV IV heat pump condensing units. These UVs can bring up to



White Plains High School's 1950s-era buildings were structurally strong but needed HVAC upgrades. The school installed Daikin Applied unit ventilators and associated equipment to ensure comfort while also gaining more efficiency and a quieter, healthier classroom environment.

100-percent outside air directly into the classroom, and without the need for condenser airflow, the existing louver opening was sufficient.

The VRV condensers were placed outside on ground level, where there is ample space and airflow to reject heat in cooling mode. The UVs were also able to use the existing hot water heating system during the cold New York winters. The UVs were ideal for the school because they allow for individual control of heating and cooling and direct integration of fresh air into the classroom.

The design included demand control ventilation, a feature which increased operating efficiency for the school and translates into dollars saved for the district. EEVs in the system modulate the precise amount of refrigerant to each zone, meeting the requested set point in a gradual and efficient manner. The demand control ventilation

feature continuously monitors carbon dioxide levels in the classrooms and brings in fresh air accordingly, optimizing the volume of outside air supplied to the space and reducing energy waste.

The single air filter in each unit removes particulate from outside air before it is conditioned and supplied to the classrooms. The filter is easy to access and replace, easing the burden on facilities staff.

Comfortable and Quiet

Daikin's ductless solutions also mean less noise in the school. The absence of ductwork removes potential audible distractions such as rattling, humming, and buzzing. The outdoor air processing capability bolsters indoor air quality, creating better learning environments for teachers and students alike.

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Wilkes & Company Sees Rapid Return on Investment with MobiliForms from iBusiness Technologies

By switching to iBusiness Technologies' MobiliForms mobile solution, Wilkes & Company simplified its reporting and reduced costs so much that the entire system paid for itself within 12 months. The rapid return on investment was particularly welcome, as a previous attempt to upgrade its software was wreaking havoc on the company during the first six months of implementation.

"MobiliForms eliminated lost paperwork and optimized everyone's time, simply and cost-effectively," said Wilkes Owner Glen Ginesi.

Ginesi attended the MSCA conference in October 2017 with the very specific goal of finding a mobile field solution to replace the new software his company had installed not long before. Glen's decision was tough, because a lot of time and money had been invested in the new software that failed to deliver on its promises. He focused on MobiliForms after hearing about its simplicity and successes.

For years, Wilkes had found itself buried in stacks of time cards, daily reports, and safety inspections for each site. Also, strict Mine Safety and Health Administration guidelines require that Wilkes' mining-related work be meticulously documented for safety and con-

"MobiliForms eliminated lost paperwork and optimized everyone's time, simply and cost-effectively."

—Glen Ginesi, Owner,
Wilkes & Company

formance reasons. MobiliForms eliminated volumes of paperwork, reduced costs, and derisked Wilkes' mining work by simplifying required reporting.

"We now know where everything is, completely eliminating lost

paperwork," said Ginesi. "Everything goes to the MobiliForms Cloud and then attaches to customer records. We were also tired of trying to adapt our workflows to software; MobiliForms conforms to how we run our business."

Additionally, electronic drawings are easily distributed to and read on Apple® iPads®. The system paid for itself within one year and continues to yield dividends daily across Wilkes' 25 field employees and office personnel.

MobiliForms runs on Apple's iPad, a top choice for contractors seeking battle-tested mobile devices. Apple's underlying iOS deployment platform simplifies managing devices and streamlines content distribution.

For more information, visit MobiliForms.com or contact Steve Metzman at 215-850-5565 or steve.metzman@iBusiness-Tech.com.



By implementing MobiliForms from iBusiness Technologies, Wilkes & Company eliminated lost paperwork and reduced costs across their 25 field employees and office personnel.

VICTAULIC

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to work, along with the company's proprietary software, Victaulic Tools For Revit®, to create models within a tolerance of 1/16". The software also enabled easy file transfers to the Poole and Kent team, streamlining the pre-construction process. All components installed in the mechanical room—including vibration isolation pump drops, strainers, triple-duty valves, and the connections used for the heat exchanger—were Victaulic products.

Victaulic's BIM Piping Coordinator, Josh MacMurray, explained that accuracy was only one of the many benefits provided by the software. "It allowed us to be efficient," he said. "Our product families and system preferences are designed into the software, which allowed Victaulic to turn drawings around quickly."

Campbell recognized that Victaulic's experienced team and their strong communication with Poole and Kent contributed to keeping the project on track from the beginning. "We had regular meetings to share models and work out any conflicts that existed between the drawings along the way," he said. "Working with Victaulic VDC on this job was a seamless process. We were in constant communication regarding delivery dates, meeting project needs, and identifying potential areas for equipment placement."

This communication allowed the VDC team to identify and prevent several potential issues during the drawing process. It also eased the piping installation in the mechanical room, as VDC delivered designs optimized for constructability and maintainability.

Poole and Kent Superintendent Tom Major was glad to have a partner that could handle the project's restrictive

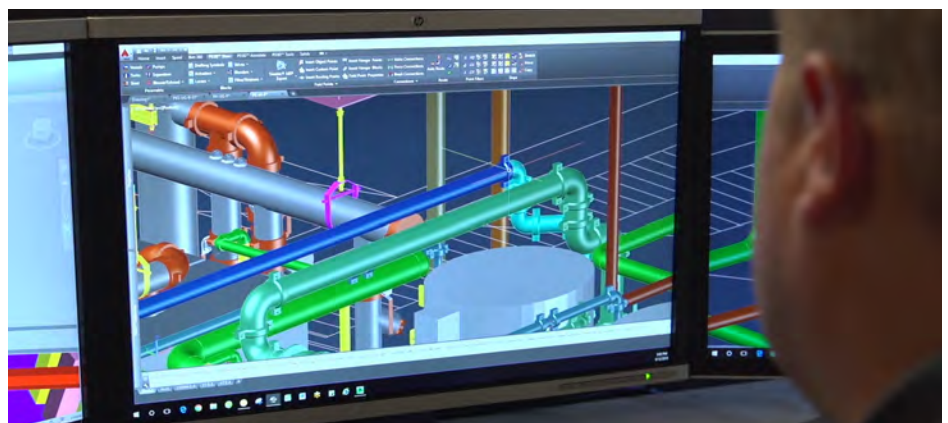


Victaulic products, including these vibration isolation pump drops, and close collaboration with Victaulic's design team helped Poole and Kent finish the mechanical room installation for the new Baltimore high-rise apartment complex in only 50 days, 15 days ahead of schedule.

timeline. "We had 65 days to finish a mechanical room that normally would have been done in 10 months," he said. "We successfully completed it in 50 days in the field. Victaulic positively impacted our build schedule—they were able to provide timely drawings and material spools, and we were able to get the material cut, packaged, labeled, and ready for the jobsite."

"The general contractor and owner were not convinced it was going to be possible to meet such a short deadline," said Major. "But we were able to make it happen with the help of Victaulic."

For more information, visit www.victaulic.com. MCAA thanks Victaulic for being a major sponsor of MCAA19 and co-sponsoring the golf tournament.



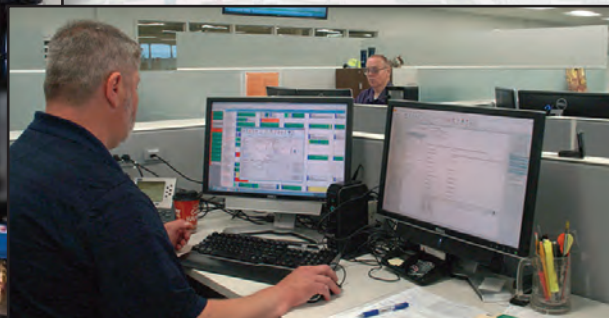
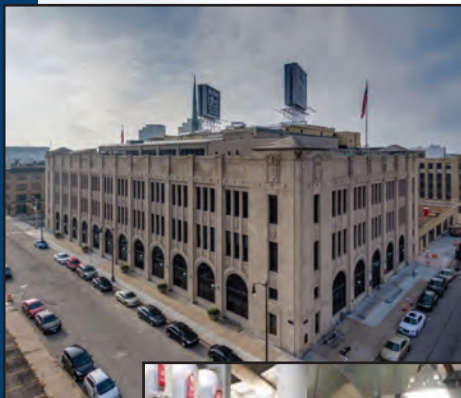
Victaulic's VDC team used Autodesk programs Navisworks and Revit, along with their proprietary Victaulic Tools For Revit®, to create models within a tolerance of 1/16", so Poole and Kent were able to keep the luxury apartment building on schedule despite the limited size of the mechanical room and the number of systems and the large-diameter piping that needed to be installed.

Interested in *MORE* “SMART SOLUTIONS”?

Check out the Smart Solutions Case Studies area at mcaa.org, where you'll find additional articles that spotlight mechanical contractors who found their win-win. In partnership with members of MCAA's Manufacturer/Supplier Council, these contractors found innovative ways to meet their clients' needs by improving productivity, cutting costs and saving time on the job.

This section of our website also features tips and ideas on other ways you and your company can save money and enhance your productivity.

Find **Smart Solutions Case Studies** under the *Virtual Trade Show* menu at www.mcaa.org



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Current Mechanical Improves Efficiency and Bottom Line with Jonas Construction Software

By implementing **Jonas Construction Software** solutions in the back office and on the front lines of service, **Current Mechanical** has made operations more efficient across the board, boosting the bottom line. Current Mechanical ultimately selected Jonas after speaking with many existing Jonas clients, researching competitors, and experiencing several demonstrations. “The overall positive feedback we received from others we spoke to within and even outside our industry really sold us on the software,” said Ted Current, vice president and CFO of Current Mechanical.

Established in 1978, Current Mechanical is a family-owned, high-quality solution that offers a complete range of services to ensure that clients’ buildings and homes are healthy, comfortable, and energy efficient. Current Mechanical’s services range from preconstruction consultation to custom fabrication in their prefabrication shop to annual preventive maintenance. Their mission is to solve customers’ problems by finding the right solutions for each unique customer. So, it is fitting that Current Mechanical took the time to find the right solution for themselves.

User-Friendly Software

Since putting the Jonas software in place, Current Mechanical is running a more efficient and integrated business. With the user-friendly nature of the software, real-time reports are easier and quicker to create, and the ability to create a new job is now seamless. On the service side, Current Mechanical is fully operational on Jonas eMobile, so technicians can perform and complete jobs directly from the field using their tablet devices.

“Before we had eMobile, we were using a lot more pen and paper, which was definitely less efficient,” stated Current. “Now, since implementing Jonas eMobile, our techs are able to complete jobs from the field and no longer have to return to the office to drop off their paperwork on a weekly basis, which has really allowed us to have access to more timely information.”

In addition, Current Mechanical no longer needs to run reports for every single aspect of their business. Instead, they can go directly into the Jonas system and access information in real time.

Faster Billing, Less Paperwork

The benefits to the business have been tremendous. Current Mechanical is now able to bill much quicker and has been able to reduce payroll processing time.

“Jonas has allowed us to significantly reduce our manual data entry, thanks to their mobile solutions and fully integrated nature, which has allowed us to save about half a day of data entry for our payroll staff,” Current said.

Seamless Transitions

Current Mechanical recently acquired two businesses on the residential side, and both were using QuickBooks. Both have since seamlessly transitioned off of QuickBooks and on to Jonas, allowing Current Mechanical to operate with only one accounting system and centralize all of their data. Current Mechanical was also using Trimble ConstructJob software, which has now been replaced with Jonas’ Project Management solution.

“By transitioning off both QuickBooks and ConstructJob and

only using Jonas for all our functional business areas, we have been able to reduce our overall software costs and improve our bottom line,” said Current.

“Jonas has allowed us to significantly reduce our manual data entry, thanks to their mobile solutions and fully integrated nature, which has allowed us to save about half a day of data entry for our payroll staff.”

— Ted Current, Vice President, CFO,
Current Mechanical

As a whole, Current Mechanical has been able to grow their business without having to add any back-office personnel, all while running on Jonas. They have also seen an increase in employee satisfaction, as several of their staff are now using Jonas who were not using the old software.

Growing Together

While the decision to make the switch to Jonas involved a lengthy and exhaustive search, Current is sure it was the right decision. “We really find Jonas to be a quality software solution, and we are very confident that as we grow, Jonas will be there to grow with us,” he said. In making the decision to invest in Jonas, Current Mechanical has been able to take their business to new heights and are now positioned for even greater success as they continue to grow and evolve.

For more information, visit
www.jonasconstruction.com.

Herman Goldner Increases Efficiency, Customer Satisfaction with Key2Act's MobileTech

Company Cuts Manual Input Time in Half

The Herman Goldner Company expected that adopting Key2Act's MobileTech would help them streamline processes and become more efficient. The mobile approach has also helped make technicians more independent, because they can rapidly exchange information with the home office, and it has reduced manual scanning and archiving.

Customers are seeing the impacts too. "The number-one positive feedback was that customers are getting their call summary report

electronically delivered much quicker, and it's a nicer presentation, as opposed to a handwritten copy," said Tony Le, system administrator for the company.

The Roots of a Relationship

While many mechanical contracting companies can boast decades of service to their community, few can date their history as far back as The Herman Goldner Company. Founded in 1887, the company recently celebrated its 130th year in business. The company goes so far back, in

fact, that when founder Herman J. Goldner started the business in his Philadelphia basement, he delivered supplies to his jobs using a wheelbarrow and a horse-drawn cart.

Ever since those humble beginnings, Herman Goldner has been providing mechanical services to the Philadelphia area and the Greater Delaware Valley. The company, which specializes in HVAC and plumbing systems, provides quality craftsmanship with an emphasis on customer service to the commercial, industrial, and residential sectors.

In 1998, Herman Goldner began using Key2Act's Signature Service Management and Job Cost solutions to help manage the company's service and project needs. Over the past 20 years, Key2Act's solutions have helped Herman Goldner adapt and change through periods of extensive growth. Key2Act became a true partner to the company, so when the Herman Goldner team started looking into mobility solutions a few years ago, they did not have to look far.

Why Go Mobile?

Over the past few decades, Herman Goldner has become almost completely paperless, which has helped the company streamline processes and created multiple efficiencies. However, the Herman Goldner leadership team knew that mobility was the next logical step toward providing the best service to its customers. "We understand that now we're in a marketplace where mobile is the platform that everybody uses, so we had to get into it," said Le.



Key2Act's MobileTech enables Herman Goldner's field service technicians to access customer information and record information about their service calls and job appointments, increasing efficiency of documentation and leading to increased customer satisfaction.

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IFS Replaces Cooling Towers Without Disrupting Government Offices

Ease of Installation Makes Marley NC Towers from SPX Cooling Technologies Clear Choice for Demanding Work

Thanks to careful planning, prefabrication, and easy-to-install Marley NC cooling towers from **SPX Cooling Technologies Inc., Integrated Facility Services** (IFS) replaced two large wooden cooling towers with two new steel cooling towers at a St. Louis, MO, government building while keeping the chiller system operational throughout to avoid disrupting essential county government services. The \$1-million cooling tower replacement project received the Outstanding Mechanical Installation Award from the Mechanical Contractors Association of Eastern Missouri.

The Louis K. Roos County Government Building houses St. Louis County's government administration offices. Located in the busy Clayton, MO, business district, it includes the offices of the St. Louis County Executive. To minimize disruption, the cooling tower hoisting and setting onto the roof was accomplished on two Saturdays.

IFS' work included demolition of old tower structures, structural steel fabrication, mechanical and electrical work, insulation, hoisting, and painting. IFS precisely measured and custom-prefabricated structural steel framing with seismic-rated spring vibration isolators, 10–16" large-bore piping, fittings, valves, and tower pieces, all of which were lifted to the nine-story rooftop by crane. Central Avenue in downtown Clayton was temporarily closed on both crane days to accommodate the installation.

Commenting on the logistics needed to successfully execute such a large project without major disruption, Gary Tidwell, IFS project manager, said, "This project required an extensive amount of precise planning.

Everything was measured, detailed, fabricated, and painted in advance, and each piece had to fit exactly on installation day. Our highly skilled project team completed the project as planned."

IFS replaced 40-year-old wooden towers with a two-cell Marley NC 8414 steel crossflow cooling tower, factory-assembled by SPX Cooling Technologies. The Marley NC, certified by the Cooling Technology

Institute, offers the highest tonnage per cell and the highest ASHRAE 90.1 performance available, which makes it easier to cool larger applications with fewer cells more efficiently and cost-effectively.

The Marley NC cooling tower's ease of installation and maintenance also factored into the equipment selection process. With

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IFS replaced 40-year-old wooden towers at a St. Louis, MO, government building with a two-cell Marley NC 8414 steel crossflow cooling tower, factory-assembled by SPX Cooling Technologies Inc.—while keeping the chiller system operational throughout to avoid disrupting essential county government services.

IES Uses XOï Vision to Drive Service Opportunities

Indoor Environmental Services (IES) of California adopted XOï Vision technology, paired with Key2Act's MobileTech, to provide technicians with an easy platform for capturing video and photos on the jobsite and sharing that content with customers. That investment has yielded many unexpected returns, including reducing the lead time for sales follow-up on field-originated opportunities from two weeks to one or two days.

Standing Out in a Crowded Field

IES is a full-service facilities solution provider that serves business clients throughout California. The company specializes in mechanical contracting, including HVAC, energy projects, and both retrofit and new construction plumbing. About 170 employees work in the field, 60 of which are dedicated to the service business, doing repair, maintenance, and warranty work.

In the busy world of California commercial real estate, many building

owners and property managers do not work onsite. IES wanted to distinguish itself from other reputable mechanical contracting competitors by offering clients a higher level of value and transparency through video and photo documentation from the jobsite.

"We're capturing XOï content—physical video, pictures—onto quotes, which has expedited how fast those quotes are approved. We seem to get less contested quotes, less questions."

—Jason Saunders,
Service Operations Manager, IES

IES had used Key2Act MobileTech field service management for roughly

five years when they decided to add an integrated video communication platform. IES leaders met with fellow Key2Act customer MacDonald Miller and learned about their real-world results with XOï Vision.

Jason Saunders, service operations manager for IES, said XOï was a good fit for IES and very easy to implement. The integration of XOï with MobileTech made it easy for IES' technicians to use the video component that XOï offered—even for those challenged by mobile technology.

IES immediately saw the value of streaming data quickly to their end-customers. Customers appreciate seeing what is happening on the roof. Many have not been trained in the mechanical trades and have trouble understanding components on a quote. "If we can show them rather than tell them, it gives them a nice verification," explained Service Manager Eric Yocum. "We've had some customers tell us right away that they want video on every future work order."

As a result of using XOï Vision, IES' clients' perceptions of the value of mechanical services has increased. IES has also seen improved workflows throughout the organization, resulting in greater efficiency. "It's a great platform to standardize certain processes, to share information, to show value to clients. It's a very powerful tool," said Yocum.

With the technology, IES has helped property managers provide better documentation to offsite supervisors and building owners. Saunders said, "We're capturing XOï content—physical video, pictures—onto quotes, which has expedited how fast those quotes are approved. We seem to get less contested quotes, less questions."



IES Service Operations Manager Jason Saunders is impressed with how much time XOï Vision saves in managing data and paperwork. "From the minute we open the door until close, my team doesn't have to collect data, attach data to a service call. It's done for them," he said.

Although they initially purchased XOi to help technicians, IES decided to roll out XOi to the entire service side of the business—about 60 technicians, plus supervisors, sales, and safety coordinators. “I think there’s potential to use it throughout the organization, including the construction, estimating, and engineering teams,” said Saunders. Increased customer transparency, more efficient workflows and processes, standardized lead-handling workflow, expedited customer quote acceptance, and new training material are just some of the benefits already realized by IES.

“It’s a great platform to standardize certain processes, to share information, to show value to clients. It’s a very powerful tool.”

—Eric Yocum,
Service Manager, IES

XOi also helps IES manage jobs far from the office. The company can send a single employee to a jobsite hundreds of miles away but still enable the project manager and foreman to participate live in the site walkthrough as well as record it for further review.

Both Saunders and Yocum agree that one of the most useful features of XOi is the ability to streamline processes by building role-based workflows. “The ability to create your own workflows and processes has turned out to be one of the things we like the most about XOi. I can write a workflow for anybody in our organization in 15 minutes,” said Yocum.

IES has used XOi to standardize its lead process, cutting out two layers of managerial review from the



IES technicians found XOi Vision easy to use with the Key2Act MobileTech solution they were already using. “There are a lot of lead opportunities and unit replacement opportunities as a result of being able to show customers the condition of their assets,” said Eric Yocum, IES service manager.

technician-originated lead workflow and routing video content directly to the sales manager. This has reduced lead follow-up time from one to two weeks down to just one or two days.

“XOi Vision has been a very versatile product.... It has got many uses other than Mr. Technician and helping him with a service call.”

—Jason Saunders,
Service Operations Manager, IES

“There are a lot of lead opportunities and unit replacement opportunities

as a result of being able to show customers the condition of their assets,” Yocum pointed out.

XOi has also helped IES eliminate most of the work involved with data collection from field service calls. “From the minute we open the door until close, my team doesn’t have to collect data, attach data to a service call. It’s done for them,” said Saunders.

“XOi Vision has been a very versatile product.... It has got many uses other than Mr. Technician and helping him with a service call,” noted Saunders.

For more information, visit www.xoi.io.

CNA

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To make sure you can see and be seen, clean all the snow and ice off of your windshield, other windows, outside mirrors, lights, and reflectors.

7. Use proper lights.
 - Never drive with parking lights instead of headlights in winter's early dusk and poor visibility. Parking lights can cause an oncoming driver to think you are farther away than you are.
 - Keep headlights clean; dirty ones can greatly reduce your own seeing distance at night.

In Case of Accidents or Emergencies

1. Be prepared in case your vehicle breaks down or slides off the road. Have the following items on hand:
 - Charged cell phone
 - Working flashlight
 - Shovel
 - Ice scraper
 - Blankets
 - Critical medications
 - Water and food

2. Stay with your vehicle.
Make sure the exhaust pipe is clear, and only run the vehicle as much as necessary.
3. Place a bright marker on the antenna.

For additional information and emergency preparedness resources, call 866-262-0540 or visit www.cna.com/prepwise. MCAA thanks CNA for being a benefactor of MCAA19, sponsoring the final program, and cosponsoring the dessert party.

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KEY2ACT

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MobileTech, from Key2Act, was the company's first and only choice. MobileTech connects field staff with the back office, enabling field workers to manage service calls and job appointments, access full customer and equipment history, and capture opportunities for additional work.

Best of all, MobileTech fully integrates with Signature. "It was the only product we ever looked at, because we wanted it to integrate with our ERP [enterprise resource planning system]," Le said.

Smooth Rollout

Herman Goldner introduced MobileTech to the company's technicians at a deliberately slow pace. "We started small," Le said. "We started with five, and those five were selected based on their past experience with mobile, from either a previous employer or just their own personal understanding of mobility. They were our champions. They were the ones who worked out all the bugs.

"Once they got over the learning curve, they were able to share that experience and the knowledge with their fellow techs. It went really smooth. We added groups of five, 10, then the last couple batches were a lot larger. It was really, really smooth," Le said.

Strong Results

Now that all of Herman Goldner's techs are using MobileTech, the company has a good picture of the improvements facilitated by the mobility solution. "We really didn't understand what we didn't have; you know, the old saying is, 'You don't know what you don't know,'" Le said. "By having MobileTech now, we've really extended the systems out to the field."

One of the biggest observations Le has made about MobileTech's impact is that it has made Herman Goldner's technicians more independent, largely due to the quantity of additional information the techs can now access. Information is also exchanged much more quickly between the office and the technicians than it was in the premobility era.

Efficiencies enabled by MobileTech have been felt by the back office as well. Job-related documentation

can now be submitted by the techs through the solution. "We get the email to index the documents right away," Le said. "Before, it would be manual scanning and archiving, which was double work."

Le expects that as Herman Goldner continues to use MobileTech, the solution will help the company strengthen relationships with its customers. "It is a very relationship-based industry," Le said. "I'm sure the customers will be happier that we can

respond quicker, we can be dispatched faster."

Overall, Le is excited about the success that Herman Goldner has achieved with MobileTech and is looking forward to discovering new efficiencies through the solution. "I think MobileTech is a game changer," Le said. "Mobility is really becoming the standard. To stay ahead of the market, then you really need mobility."

For more information, visit www.key2act.com.

DAIKIN

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Daikin VRV IV condensing units also played a large part in providing an environment that promotes productivity. The VRV IV's compact footprint offered multiple options for placement, and the best choice was at ground level, where the units could be installed with short, noninvasive refrigerant pipe runs.

VRV condensers come with a corrosion-resistant coating, test-rated for 1,000 hours of salt spray, which makes the equipment suitable for harsh weather and coastal areas such as White Plains, NY. The hydrophilic coating also washes away dirt after rainfall, further extending the life of the system.

White Plains' Director of Facilities, Frank Stefanelli, was pleased with the solution Daikin provided, adding that the students are the ones who are most thrilled. Before the upgrade, "We got many calls from students and teachers saying that the classrooms were too warm," said Stefanelli.

"When I went to walk the B-Wing you could see the kids were sweating," he continued. "Even in the winter, the rooms would get too warm from the



Because of structural beams blocking condenser airflow, White Plains High School used Daikin Applied's VRV IV heat pump condensers to reject heat in a remote location. The units' compact footprint provided multiple options for placement at ground level, where they could be installed with short, noninvasive refrigerant pipe runs.

lack of temperature control. It pained me to see the windows open on my way home from work." This winter however, the windows have been closed, and students are thankful for the enhanced comfort delivered by Daikin.

For more information, visit www.daikinapplied.com. MCAA thanks the Daikin Group for being a benefactor of MCAA19 and supplying beverages on Tuesday evening.

MILWAUKEE TOOL

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knowledge of our business to their offered solution,” said Kurt Lewis, director of operations at McGilvray.

For McGilvray, the OSHA standard on silica dust is not just a legal priority—it is a moral one. “We’re not doing this simply because it’s expected of us now,” said Lewis. “We’re doing this because it’s right.”

New Standards

McGilvray Mechanical, based in Pompano Beach, FL, has been a leading provider of commercial mechanical HVAC services in southern Florida for more than 60 years. McGilvray—along with 676,000 other employers nationwide—faced stricter standards for dust

management beginning September 23, 2017.

OSHA sought to bring worker protections to the forefront with its construction standard on respirable crystalline silica, 29 CFR § 1926.1153. Silica is found in materials like concrete, tile, rock, stone, and brick. Exposure to silica dust can be a major cause of lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease.

OSHA has spent the past year ensuring that the final rule is followed, even making room for “good faith” efforts by employers if they show that they are on track toward compliance. However, many construction companies have faced steep fines. In the first six months after the standard went into effect, OSHA found 117 violations, 80 percent of which were considered “serious.”



McGilvray Mechanical made a seamless transition to compliance with new OSHA standards protecting workers from respirable silica by using MILWAUKEE's HAMMERVAC™ Dedicated Dust Extractors in conjunction with their current M18 FUEL™ 1-1/8" SDS Plus Rotary Hammers.

Workforce Impact

While the cost associated with arming workers with the tools they need to be compliant has often been steep, companies like McGilvray understand that the long-term protection is priceless. As soon as OSHA announced the standard in 2016, McGilvray began making sure they met the best interests of their workers.

“Because we have a workforce of more than 65 doing a wide range of commercial mechanical work, along with the implementation our new retrofit service division, we knew the recently implemented standard would impact our workforce in their daily activities, so we spent a significant amount of time making sure we did it right,” said Lewis.

The company performed numerous trainings and assessments to ensure employees were informed of the hazards associated with respirable silica, and leadership educated themselves on the specific tasks in the workplace that could result in exposure and how to implement compliance methods that protect employees.

“It was a comprehensive undertaking which did not take away from the most important goal of keeping our greatest resource—our employees—safe,” said Lewis.

Partners in Compliance

Key to all of this was making compliance as simple as possible by partnering with MILWAUKEE TOOL, the global leader in heavy-duty jobsite solutions for the construction trades. Its productivity-focused dust collection solutions help make compliance simple for companies and their workers, so they can stay focused on their work.

“I simply told them what we needed, and they met this need by

outfitting our team with solutions that made compliance easy,” said Lewis. “Throughout the entire process they offered the consultation, training, and support to successfully achieve our operational staff safety goals.”

Seamless Transition

McGilvray made their compliance seamless by using MILWAUKEE’s HAMMERVAC™ Dedicated Dust Extractors in conjunction with their current M18 FUEL™ 1-1/8" SDS Plus Rotary Hammers. These extractors are compliant with OSHA Table 1 and use the same replaceable certified HEPA filter as other HAMMERVACS, which filter

99.97 percent of all particles greater than 0.3 micrometers. Making the transition even easier, these tools feature an inline, dedicated design engineered to directly connect to and be powered by the tool, and they are fully compatible with the wide range of M18™ tools the McGilvray team already uses in their work.

McGilvray was also introduced to MILWAUKEE’s new DUST TRAP™ Drilling Shroud—the first OSHA compliance solution that meets objective data requirements without the use of a vacuum. This universal accessory gave the McGilvray team the flexibility to

remain compliant even when not using the HAMMERVACS.

“With the availability of these tools, which eased our implementation transition, we gained peace of mind that our employees weren’t being exposed to dust during our critical drilling applications, while allowing us to provide a safer work environment and leading compliance in south Florida,” stated Lewis.

For more information, visit www.milwaukeeetool.com. MCAA thanks MILWAUKEE TOOL for being a benefactor of MCAA19, sponsoring the Tuesday night reception, and co-sponsoring the dessert party.

ANVIL

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medical facilities. KOH has built and maintained several other hospitals in the Salt Lake City area over the years.

Working closely with Anvil and other partners kept the focus on meeting the project’s nine-month deadline. KOH’s local suppliers front-loaded the job, delivering about 80 percent of the rough-in materials at the start. This approach kept costs down, because KOH did not have to wait for products or deal with price fluctuations. The remaining products were

sent over in small orders as needed. Gruvlok products used include 2" to 8" couplings, fittings, and butterfly valves.

Faster installation is not the only way Gruvlok products kept costs down, nor was front-loading the jobsite. KOH Mechanical credits Anvil with helping make this project a success “by products being readily available, costs of products being very competitive, and labor savings that reduce our biggest risk,” said Hanson.

Hanson also noted, “With the sales rep’s getting the Gruvlok products preapproved with the engineering firms, it speeds up the submittal review process.”

KOH Mechanical plans to use Anvil products for future projects.

For more information, visit www.anvilintl.com. MCAA thanks Anvil International for being a major sponsor of MCAA19 and supporting the Annual Fun Run/Walk.

SPX

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IFS’ pre-planning, the challenging HVAC installation was completed from start to finish in about two months.

IFS is no stranger to tough projects. Established in 1966, IFS delivers integrated mechanical engineering and construction, installation,

service and planned maintenance, and energy conservation solutions, with a focus on ensuring occupant comfort, improving efficiency, and reducing operational costs. IFS is ranked among the top 100 HVAC contractors in the country by Contractor Magazine, was named a 2016 Midwest Top 50 Specialty

Contractor by Engineering News-Record, and is the sixth largest mechanical contractor in the St. Louis region. The firm serves clients in Missouri and Illinois, with offices in St. Louis and Columbia, MO.

For more information, visit spxcooling.com.

VIEGA

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Devine continued, “ProPress makes sense because there’s the risk factor of soldering in an old wood building. Plus the speed is a big advantage.

“Our estimating software recognizes a 10–15 percent savings [with Viega], and when you get a job with large mains and large runs like this, it can go higher,” said Devine.

Speed, Safety Matter

Devine Brothers had previously worked with the co-owner and developer of the MOH and was brought in for the plumbing design for the massive building. They started work in October 2017 on the building, which opened in December 2018. Devine Brothers uses ProPress wherever they can. For the MOH, they used fittings ranging from 3/4" to 4" in size and sometimes had as many as 12 crew members on the project at one time.

About 15,000' of copper pipe was run in the MOH for domestic water. In such a huge facility—it seats 3,500—there was a lot to plumb. “There’s a kitchen, multiple bars, and with five floors, there are a lot of bathrooms,” Devine said.

The entire building has undergone a massive restoration and renovation process. Because the MOH has been on the National Register of Historic Places since 1972, crews were careful to keep the building “bones” in place as it was renovated.

Music Returns to MOH

The MOH was built in 1908, in just a few months, by Oscar Hammerstein. The largest theater of its kind in the world at the time, it was originally home to Hammerstein’s Philadelphia Opera Company but was sold to the Metropolitan Opera House of New York City in 1910 and renamed. Various opera companies used the



Devine Brothers said using Viega ProPress to install about 15,000' of copper pipe for the massive replumbing of the Philadelphia Metropolitan Opera House saved time and money.

building through 1934. For the next five decades, it was in constant use as a movie theater, a ballroom, a sports venue, and a church.

Vacant from 1988 to 1995, the building was declared imminently dangerous by city building authorities but was saved from demolition when it was purchased by a reverend to become the Holy Ghost Headquarters Revival Center. The church would spend millions of dollars attempting to stabilize the structure.

A co-ownership agreement was reached between the church and its current developer in 2017, when Live Nation signed its lease agreement to bring concerts to the revitalized opera house. The MOH reopened on December 3, 2018, with a concert by music icon Bob Dylan.

For more information, visit www.viega.us. MCAA thanks Viega for being a benefactor of MCAA19 and sponsoring the student chapter activities.



Renovating the Philadelphia Metropolitan Opera House required taking special precautions to avoid damaging the historic, 111-year-old structure. Devine Brothers used Viega ProPress to work in tight quarters and avoid the fire risks posed by welding.